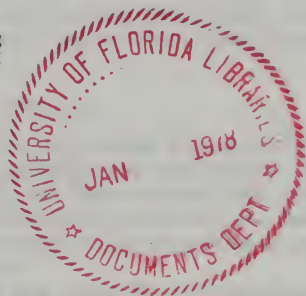


NUTRITION AND HEALTH II  
NUTRITION AND HEALTH REVISED  
WITH A  
STUDY OF THE IMPACT OF NUTRITIONAL  
HEALTH CONSIDERATIONS ON FOOD POLICY  
PREPARED BY THE STAFF OF THE  
SELECT COMMITTEE ON NUTRITION  
AND HUMAN NEEDS  
UNITED STATES SENATE



JULY 1976



Printed for the use of the Select Committee on Nutrition  
and Human Needs

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(II)

## FOREWORD

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The first "Nutrition and Health" report, published in December 1975, examined the problems of nutritional ignorance in the United States and the reluctance of the Administration to introduce nutritional health considerations into food and economic policymaking.

The second edition retains the substance of the first, but Chapter III has been expanded to review the involvement of nutritional health factors in United States and world food policy in this century. The study finds, in effect, that we have regressed since World War II in our understanding of the importance of nutritional health considerations to food and economic policy.

Since 1972, the United States has been faced with an unexpected worldwide food shortage that may be the most protracted since that of World War II. We are relearning to manage our food system under the unfamiliar circumstances of low stockpiles and uncertain production. In this new era we seek guidelines.

In 1973, President Nixon appointed a Committee on Food within the Cost of Living Council, his Administration's first mechanism for moderating consumer food prices and balancing the numerous demands made on the limited food stocks. In managing the food system, the Nixon and Ford Administrations have entered into the marketplace sporadically to control prices. Measures such as the soybean embargo and the delays in grain sales to the Soviet Union in 1974 and 1975, have been last minute steps, treating effects rather than causes. The Administrations have argued that the marketplace should be the principal arbiter in the struggle over our reduced food supply. Although this position has a clean, simplistic appeal, the consequences are anything but clean.

### SURVIVAL OF THE FITTEST

The Administrations' policy is one of survival of the fittest, leaving commercial interests in a position of unchallenged superiority. As prices rise, the marketplace does not allocate food to those who cannot afford it. Nor does the marketplace necessary stimulate the consumption of the most nutritious foods, involving the least amount of resources for production and consumption.

To be more specific, we find that at the same time a significant minority at home and perhaps a majority overseas are going hungry, many Americans are consuming too many calories. Six out of the nine diseases among the 10 leading causes of death in the United States (accidents are the other cause in the 10) are believed to have overconsumption of nutrients and food additives among their causes. Obesity is a major health problem, and the food industry, stimulating consumption, produces foods with "empty" calories and artificially differentiated foods, relying for their appeal on salt, fat, sugar and artificial colorings and flavorings. In a time of severe food shortage, the marketplace would dictate reduced consumption, hitting the poor-

est first. But the marketplace will encourage maximum consumption until the crisis. We need a better guideline than the "free market" alone.

### APPLY HEALTH CONCERNS

My appraisal of the handling of U.S. food policy over the last 4 years leads me to conclude that one of the most important, if not the most important, guides in the management of the food system is nutritional health. Most would agree that the final objective of any food system is the maintenance and improvement of the nutritional health of the population. It is only natural then that nutritional health be among the key measures applied to food policy decisions.

The application of nutrition knowledge to broad food and agricultural policy issues is not new. In his striving to build food stocks during World War I, Herbert Hoover, as Food Administrator, found it essential to guide housewives in the use of menus that would save vital commodities such as meat, wheat and sugar in order to conserve those scarce resources. During World War II, nutritional health factors guided not only the diets of the public but also food production decisions.

Although we are not at war, the food shortages with which we are faced show signs of being as lengthy and possibly as serious as wartime shortages, perhaps more so. A report by the staff of the World Food Council (June 1976) warns of a food deficit of 85 million tons in the developing countries by 1985. This would be twice the shortfall experienced during 1974, the Washington Post noted, when the world almost exhausted its food supplies.

I have introduced S. 2867 which would provide an organizational basis for the evolution of a just food policy to deal with the current situation. The mechanism established by the bill, the Office of Food and Nutrition, would provide access for all essential policy considerations, including nutritional health. The bill would also provide for the creation of a comprehensive nutritional health monitoring system that would enable us to use greater foresight in managing the food system. It will offer a means that does not now exist for gauging the ultimate consequences of policy. It will help us learn whether policy has been successful in achieving its ultimate goal, the maintenance and improvement of nutritional health. The creation of a food policy coordinating mechanism, guided by thorough knowledge of nutritional health needs, is not only advocated in documents from World War I to the present, it is dictated by common sense.

### NO NEED TO WAIT

The introduction of nutritional health considerations into food policy does not have to await the passage of this bill. President Ford has established an Agricultural Policy Committee as his vehicle for managing food policy. We find, however, that nutritional health is not among the variables normally considered in the Committee's deliberations.

This exclusion follows a pattern laid down in the Nixon Administration, beginning in 1969. At that time Dr. Arnold Schaefer, director of the Ten-State Nutrition Survey, testified in detail about the location, incidence, and effects of malnutrition in the United States. That testimony, presented to this Select Committee, was invaluable evi-

dence for those in Congress fighting to expand food assistance programs. But the Administration apparently saw greater knowledge as a threat rather than a help. The Ten-State Survey was reorganized to include only general findings, concealing groups at high risk in broad categories, thus making remedial action more difficult. Dr. Schaefer resigned.

The Administration's practice of permitting and even perpetuating nutritional ignorance apparently extends to the Department of Agriculture's Household Food Consumption Survey. Formerly scheduled to start in January 1976, the survey was delayed more than a year by the Office of Management and Budget supposedly for technical reasons. But one official reports that, in fact, the Administration did not want to be embarrassed in an election year by preliminary findings which might very well show a decline in the nutritional quality of the American diet.

The Household Food Consumption Survey is important not only as a general indicator of the content of the American diet, but as the data base for food stamp allotments. Therefore, the delay of a new survey permits continued use of data which may keep allotments lower than they should be.

In addition, the Household Food Consumption Survey as it is presently structured, does not provide the best basis for establishing food assistance allotments because it measures only nutrient intake, not the actual nutritional health of the respondents. Experts insist that proper analysis of nutritional health must include physical examination and biochemical testing as well as a measure of nutrient intake. The Household Food Consumption Survey as currently planned has no nutritional health component, and therefore, can study what is eaten but not the effects of these consumption patterns.

President Ford does not have to be bound by the practices of the Nixon Administration. To help start returning nutritional health to its appropriate place in U.S. food and agriculture policy, I ask the President to appoint the Secretary of Health, Education, and Welfare to the Agricultural Policy Committee.

In addition, I urge the President to actively support the creation of a truly comprehensive nutrition monitoring system such as that described in Chapter II and outlined in S. 2867. I also urge him to provide the funds and administrative support that will permit HEW to become an effective voice for nutritional health.

#### IN CONCERT WITH CONGRESS

Support by the President of activities in nutritional health would be completely in concert with recent Congressional action. In May, the House Agriculture Committee approved a bill that would provide \$5 million for human nutrition research in the Department of Agriculture, a 50 percent increase over the amount currently spent.

In June the Senate Appropriations Committee approved a House provision that would increase the funding for the Household Food Consumption Survey by \$1.6 million over USDA's request. The Senate Appropriations committee also approved in June \$21 million of a \$24.2 million request by Senator Humphrey for various nutrition research and education projects within HEW. The Committee also approved my request that the National Cancer Institute be directed to spend up to \$15 million for human nutrition research and my request

that \$1.9 million be appropriated for nutrition surveillance by the Center for Disease Control.

The Appropriations Committee report said:

The Committee is impressed with the serious need for human nutrition research efforts within the Federal Government. Although in the past nutrition-related research has been conducted by HEW agencies, it has generally been in conjunction with other health-related research and not necessarily in the interest of improving the quality of nutrition in America . . .

There is a general recognition that educators, medical professionals and the general population lack current information on the links between nutrition and health . . .

With the increases allowed for nutrition in the Health Services Administration, the Center for Disease Control, and in the National Institutes of Health, a new momentum in educational and research initiatives should be achieved.

In addition, the amendments to the Public Health Services Act approved by the Senate in June would provide increased support both for training doctors in nutrition and for advanced training of public health nutritionists. (These steps are important in the combating of individual nutrition ignorance, discussed in Chapter I of this report.)

#### RELEVANCE OF NUTRITION FACTORS

I fully recognize that there are those who think that nutritional health concerns are irrelevant to the hard economic choices that must be made in governing a system of such weighty and complex elements as the food system.

It is precisely because of the unpredictability and intractability of our food situation that we must view it in terms of its impact on people. It is all too easy, as we are seeing now, to leave the weakest and the least organized of our number of take up the slack when the plans of the powerful misfire.

The remedies will not all be obvious, or easy; they demand the rethinking of established economic patterns and assumptions. For example, as a representative of a State in which there are cattle-growers, I know very well that many livelihoods are tied to the cattle industry. I also recognize that concerns over grain feeding cannot be dismissed out of hand, that such issues must be faced squarely and that, if the facts require change, then we must change in a manner which protects the interests of food consumers and producers alike.

We have ample warning of the need to change the direction of our food economy, both for our physical and economic well-being. And we have in the history of the evolution of food-policy making in this century ample guidance on the ways of altering the system. We ignore this history at our peril.

GEORGE MCGOVERN,  
*Chairman.*

## COMMENTS BY SENATOR PERCY

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It is important that nutritional health become an integral element of U.S. food policy decisions. It is equally important, however, to inject the consideration of the impact of nutrition in our health policy.

As early as 1971, I began to feel that the medical profession was ill-equipped to deal with nutrition as a basic component of health care. That understanding prompted my introduction of a nutrition education amendment to the Health Manpower Bill of 1971, which opened up Special Projects funding under the Act to training and research programs in human nutrition.

The conclusions of this report indicate that we have not made significant progress since 1971. Despite the fact that six of the ten leading causes of death in this country have been connected to diet, modern medicine still concentrates on disease and therapy; and aims at death prevention rather than health promotion and maintenance. For all the medical knowledge we accumulate and the technological breakthroughs we achieve, people are still not getting the information, direction, and support they need to keep healthy.

The report attributes much, if not all, of the blame for this unsatisfactory state of affairs on the administration. In my view, blame, if placed, must be shared by all concerned—Congress, the food industry, the medical profession, educators, and the general public. Although Government must do its part, it cannot be all things to all people. If we have learned one lesson from public policy mistakes of the past, it is that Government must not promise what it cannot deliver.

National food and health policies, however effective, can help only those who help themselves. Increasingly, research findings tell us that we are in large measure responsible for our state of health. It is becoming common knowledge that much cardiovascular disease, most cirrhosis of the liver, obesity and its consequences, and many gastrointestinal disorders are self-induced by overeating, smoking, overdrinking, and eating the wrong foods. Changes in bad eating and drinking habits, therefore, can make dramatic improvements in the health of the population. Such improvements, however, depend to a great extent on the will and capability of the people to take personal responsibility for their own health.

How to get people to do what is good for them without violating their personal freedoms is a most difficult challenge. Where eating and drinking are concerned, the problem is doubly difficult. The consequences of poor nutritional habits are unfortunately paid much too late to establish cause and effect, let alone provoke action. The significance of this staff report lies in its potential to promote and inculcate good nutritional habits and to increase personal responsibility for health.

CHARLES H. PERCY.



## NOTE

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The Senate Select Committee on Nutrition and Human Needs held hearings in June 1974, to measure the progress that had been made in achieving the goals set at the 1969 White House Conference on Food, Nutrition and Health and to focus attention on the need for a comprehensive national nutrition policy.

This report is the second edition of the fifth in the series of staff studies expanding on recommendations and testimony offered at the hearings and intended to establish specific objectives for United States food and nutrition policy.

This report concerns itself primarily with America's self-knowledge of its nutritional health; more specifically, the availability of nutrition evaluation and counseling to individuals and the adequacy of our national nutrition monitoring system. The bureaucratic and political problems of applying nutritional health considerations to food policy are also examined. Nutrition education outside the medical setting, the status of nutrition research and the nutritional quality and safety of food are topics left to further inquiry.

The other reports in the staff series are: *Nutrition and the International Situation*—September 1974; *Nutrition and Food Availability* (discussing food production and retailing)—January 1975; *Nutrition and Special Groups, Part I—Food Stamps*—March 1975; *Nutrition and Government—Towards a National Nutrition Policy*—May 1975. The first edition of *Nutrition and Health* was published in December, 1975.



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**NUTRITION AND HEALTH II**

**Nutrition and Health Revised**

**With a**

**Study of the Impact of  
Nutritional Health Considerations  
on Food Policy**

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## INTRODUCTION

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### EATING IN THE DARK

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The problem of disease prevention itself has changed radically since 1900 when pneumonia, influenza and tuberculosis were the leading killers. Today, heart disease, cancer and stroke . . . claim our attention . . . there is much greater recognition today that the kinds and amounts of food and liquor we consume and the style of living of our sedentary society are major contributing factors to the development of chronic illness and to change these patterns of behavior requires the active involvement of the individual.—The Department of Health, Education, and Welfare's *Forward Plan for Health, fiscal year 1977-81*.

One in three men in the United States can be expected to die of heart disease or stroke before age 60 and one in six women. It is estimated that 25 million Americans suffer from high blood pressure and that about 5 million are afflicted by diabetes mellitus. These diseases have been directly related to over-consumption of certain foods.<sup>1</sup>

At the same time, millions of Americans are not receiving the nutrients they need. The Department of Health, Education, and Welfare's Health and Nutrition Examination Survey (HANES) reported in 1974, for example, that significant numbers of children are deficient in iron. The highest incidence of this learning impeding deficiency was found among black children, ages 1 to 5, above the poverty line, where 22 percent were affected.

The consequences of malnutrition both through the over- and under-consumption of nutrients is expensive not only in terms of human suffering and wasted potential, the monetary cost is staggering.

Dr. George M. Briggs, professor of nutrition at the University of California at Berkeley told the Select Committee at hearings in December 1972, that the annual health bill to the United States from hunger and improper eating habits might be as much as \$30 billion, or at that time, about one third of the Nation's health costs. HEW reported the health care costs to be \$104 billion in 1974. Dr. Briggs' estimate was based on a report issued in 1971 by the Department of Agriculture, *Benefits of Human Nutrition Research* (Appendix A). Dr. John W. Farquhar, of the Stanford University Medical Center, told the National Nutrition Policy hearings that the elimination of obesity in the United States might cut in half the \$24 billion being spent on treatment of premature cardiovascular disease.

In a paper prepared for the Select Committee in 1969, *Economic Benefits from the Elimination of Hunger in America*, Barry M. Pop-

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<sup>1</sup> Statistics from reports and testimony presented to the Select Committee's National Nutrition Policy hearings, June 1974, appearing in *National Nutrition Policy Study, 1974*, Part 6, June 21, 1974, Heart disease, p. 2633; high blood pressure, p. 2529; diabetes, p. 2523.

kin, of the Institute of Research on Poverty at the University of Wisconsin, made the following estimates of economic benefits that might flow from eliminating malnutrition among the poor (Appendix B).

*Education.*—Improved nutrition improves learning, prevents an interruption of cognitive development and increases the ability to concentrate and work (\$6.4–19.2 billion).

*Physical Performance.*—Improved nutrition increases the capacity for prolonged physical work, raises the productivity of workers and increases the motivation to work (\$6.4–25.8 billion).

*Morbidity.*—Improved nutrition results in higher resistance to disease and lowers the severity of disease (\$201–502 million).

*Mortality.*—Improved nutrition decreases fetal, infant, child and certain types of maternal mortality (\$68–157 million).

*Intergenerational Effects.*—Improved nutrition makes healthy mothers who have healthy children. Also, better educated parents lead to better educated children (\$1.3–4.5 billion).

It is clear that poor nutrition is a major public health problem in the United States. Its cause is rooted in our habits and our economic system, and it is a problem greatly aggravated by ignorance.

#### THE DISEASES OF OVER-ABUNDANCE

Testifying at the National Nutrition Policy hearings, Dr. William E. Connor, co-chairman of the Select Committee's panel on nutrition and health, reported:

The vast majority of Americans suffer from over-abundance of food. The changed ecology of our land . . . has led to a whole new spectrum of diseases in which nutritional factors either play the prime etiological role or else are highly contributory to the development of the given disease state, that is coronary heart disease, obesity, and so on.

The *Wall Street Journal*, in an article on the increased interest in preventive care, reported recently:

"The individual," says Dr. John H. Knowles, president of the research-oriented Rockefeller Foundation, "must realize that a perpetuation of the present system of high-cost, after-the-fact medicine will only result in higher costs and more frustration. The next major advance in the health of the American people will result only from what the individual is willing to do for himself."

Consider cancer and heart disease. It has become clear that neither is "caught" like a cold. Instead, both usually arise after decades of abuse to the body. Years of heavy smoking or drinking, high-fat diets, obesity and lack of regular exercise have been shown to play a role. Yet all these causes can be moderated or eliminated without medical treatment.

In his testimony, Dr. Connor presented the following list of primary or contributing dietary factors in some of the most wide-spread diseases:

1. *Coronary heart disease.*—An excessive amount of cholesterol, saturated fat and calories in the diet.

2. *High blood pressure.*—Dietary salt and excessive calories contributing to obesity.

3. *Diabetes mellitus.*—Excessive calories with associated obesity (also high dietary cholesterol and saturated fat intakes may predispose to the vascular complications of diabetes).

4. *Obesity.*—Excessive calories and lack of physical activity with the result that caloric intake exceeds caloric expenditure.

5. *Dental caries*.—High intake of sugar.

6. *Liver disease*.—Excessive usage of alcohol.

In the report, *Nutrition in the Causation of Cancer*, published in November 1975 in *Cancer Research*, journal of the American Association for Cancer Research, Dr. Ernest L. Wynder, of the American Health Foundation, said:

... epidemiological evidence suggests that nutrition, as used in the broadest sense, affects the incidence of a large portion of human cancers, perhaps relating to as much as 50 per cent of all cancers in women and one-third of all cancers in men (in the developed nations).

And, Dr. Wynder reported that the most important contributing factor seems to be over-consumption of certain nutrients. Mentioning fat and cholesterol, he said:

We must consider whether the human metabolic process can properly handle the enormous excess of foods so prevalent in our developed society. The consequences of such excesses, in view of our increasingly sedentary lifestyle, very possibly could be drastic, and therefore this area must be further investigated.

Table 1 shows the 10 leading causes of death in the United States, with the diet-related illnesses noted.

TABLE 1.—DEATH RATES FOR THE 10 LEADING CAUSES OF DEATH, UNITED STATES, 1972

[Based on 10 percent sample of deaths; rates per 100,000 population]

Rank and cause of death	Death rate	Percent of total deaths
All causes.....	942.2	100.0
1. Diseases of heart <sup>1</sup> .....	361.3	38.3
2. Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues <sup>1</sup> .....	166.6	17.7
3. Cerebrovascular diseases <sup>1</sup> .....	100.9	10.7
4. Accidents.....	54.6	5.8
5. Influenza and pneumonia.....	29.4	3.1
6. Diabetes mellitus <sup>1</sup> .....	18.8	2.0
7. Certain causes of mortality in early infancy.....	16.4	1.7
8. Arteriosclerosis <sup>1</sup> .....	15.8	1.7
9. Cirrhosis of liver <sup>1</sup> .....	15.7	1.7
10. Bronchitis, emphysema and asthma.....	13.8	1.5
All other causes.....	148.9	15.8

<sup>1</sup> Nutrition related causes.

These illnesses, even though most are related to the over-consumption of certain foods, are not peculiar to any one income level. Figure 1, from the HEW Health and Nutrition Evaluation Survey (HANES), shows that obesity, one of the nation's major health problems, is suffered almost equally at almost all income levels.

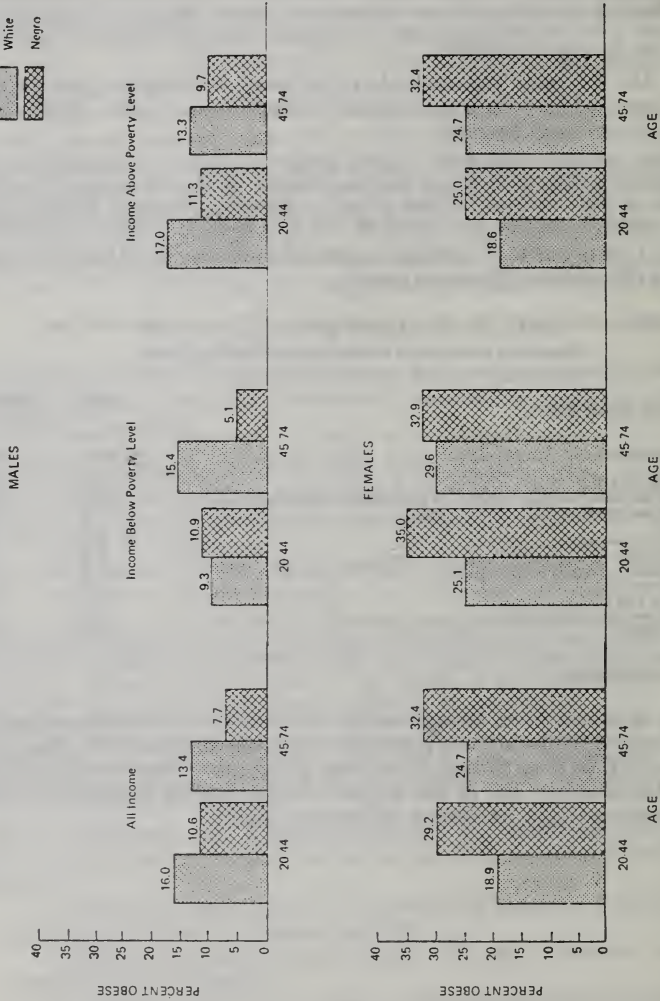


FIGURE 1.—Percent of persons obese by age, sex, race, and income levels :  
United States, 1971-72 (HIANES Preliminary)

Experience in other nations as well as our own indicates that a general reduction of certain foods in the diet is likely to lead to improved health. Figure 2 shows, for example, that there is a greater incidence of death from heart disease in the more affluent nations where the intake of cholesterol is higher.

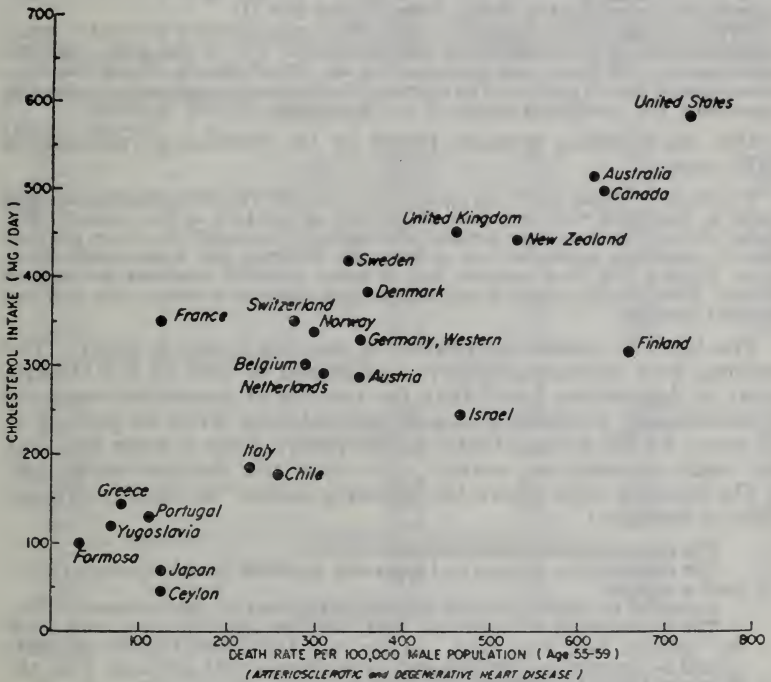


FIGURE 2.—The death rates from coronary heart disease (arteriosclerotic and degenerative heart disease, category B26) compared with mean daily intake of cholesterol in diet for 24 countries. The death rate is expressed in deaths per 100,000 population in men aged 55-59, 1955-1956. The mean cholesterol intake in milligrams per day per person was computed from food balance sheets for years 1952 through 1956. The correlation coefficient ( $r$ ) was 0.83 and was highly significant ( $p < 0.01$ ). (4).

European experience during World Wars I and II offers further evidence that reduction in consumption of certain foods can be healthful. A Library of Congress report, *Hunger and Malnutrition in the United States: How Much?*, published in May 1975 says:

The burden of serious American dietary deficiency falls on the poor, disadvantaged children, the incapacitated elderly, Indians on isolated reservations, and upon those in need who have no knowledge of the various food assistance programs or who live in jurisdictions which are unsympathetic to the problem. A more fortunate situation could be one in which the entire population was tightening its nutritional belt in total calories and in selection of foods.

The basis for this statement lies in certain results observed during generally diminished or inadequate food supplies associated with war, including sieges and

blockades. Along these lines Gert H. Brieger has noted that there was a reduction of the incidence of heart disease during World War I. There was also a decrease in morbidity and mortality from diabetes in Germany and Austria . . . also during the severe shortage of food at the World War II siege of Leningrad, cardiovascular diseases declined. A similar drop in this class of diseases also occurred in Sweden and Norway. (D. Mark) Hegsted makes a similar observation concerning the British during World War II:

"We should also remind ourselves that a food crisis does not necessarily mean a deterioration in the nutrition of the population. One of the great nutrition experiments of all time—that conducted by the British during World War II—demonstrated that in the face of an extremely limited food supply and considerable opposition, the nutritional status of the population actually improved . . ."

*Diet and Exercise*, a report issued by the Swedish government in 1972, says:

We currently obtain nearly 60 percent of our energy requirements from fat and sugar as compared with less than 30 percent at the turn of the century. The higher the fat—and/or sugar content of a diet or a foodstuff, the lower the content of important nutrients such as proteins, minerals and water-soluble vitamins. Today's diet thus contains less of many essential nutrients per unit of energy. Moreover the trend in modern western societies is toward less and less physical activity.

The trend in nutritional content of America's food is similar. The national food consumption survey conducted in 1965 by the Department of Agriculture found that the number of Americans receiving a nutritionally adequate diet had declined from 60 to 50 percent in 10 years. As will be noted later in this report, there is some fear that the next consumption survey will show the decline continuing.

The Swedish report gave the following advice "as regards average diets in Sweden":

The fat content should be reduced . . .

The consumption of sugar and sugar-rich products should be reduced by at least a quarter.

Saturated fat should as far as possible be replaced by polyunsaturated fats.

The consumption of vegetables, fruit, potatoes, dairy products with a low fat content, fish, lean meat, poultry, bread and other cereal products should be proportionately increased in accordance with proposals from the National Institute of Public Health.

The diet is very similar to the "alternative" diet for reducing fat and cholesterol consumption recommended by the Select Committee's panel (Appendix C).

## UNDER-NUTRITION

The under-consumption of nutrients, the other half of the nation's nutrition problem, is widespread, and it affects many of those also afflicted by diseases just mentioned. Dietary deficiencies may affect stamina, outcome of pregnancy, learning ability, growth and susceptibility to illness.

The 1965 Household Food Consumption Survey, conducted by the Department of Agriculture, found insufficient dietary intake of vitamins A and C, B<sub>6</sub>, thiamine, riboflavin, iron, and calcium among significant numbers of its sample population. The Ten-State Nutrition Survey, directed by HEW and gathering data from 1969 to 1970, also found substantial nutrient deficiencies, as did the most recent nutrition survey, HANES. The preliminary HANES report, based on data gathered between 1971 and 1972, found great deficiencies in nutrient intake, especially among persons below the poverty level (Table 2).

TABLE 2.—COMPARISON OF PERCENT OF PERSONS WITH NUTRIENT VALUES LESS THAN THE STANDARDS AND MEAN NUTRIENT INTAKES AS A PERCENT OF STANDARD BY RACE, AGE, AND SEX FOR INCOME LEVELS: UNITED STATES, 1971-72 (HANES PRELIMINARY)

Age, sex, and nutrient	White		Negro	
	Percent of persons with intakes less than standard	Mean intake as percent of standard	Percent of persons with intakes less than standard	Mean intake as percent of standard
INCOME BELOW POVERTY LEVEL <sup>1</sup>				
1 to 5 years, both sexes:				
Calcium.....	14.42	197	35.26	149
Iron.....	94.46	67	93.01	60
Vitamin A.....	51.51	160	46.07	187
Vitamin C.....	58.23	138	48.54	161
18 to 44 years, female:				
Calcium.....	56.39	110	74.50	80
Iron.....	94.24	57	94.66	49
Vitamin A.....	73.54	82	64.42	149
Vitamin C.....	72.26	108	59.37	132
60 years and over, both sexes:				
Calcium.....	40.23	121	44.67	108
Iron.....	62.66	95	67.31	93
Vitamin A.....	61.45	108	62.40	163
Vitamin C.....	59.16	119	54.65	141
INCOME ABOVE POVERTY LEVEL <sup>1</sup>				
1 to 5 years, both sexes:				
Calcium.....	12.14	210	24.96	166
Iron.....	94.88	69	95.29	66
Vitamin A.....	36.91	157	51.01	199
Vitamin C.....	42.82	189	52.91	160
18 to 44 years, female:				
Calcium.....	55.59	110	71.69	77
Iron.....	92.13	59	94.70	55
Vitamin A.....	64.90	114	67.36	116
Vitamin C.....	49.04	150	56.81	127
60 years and over, both sexes:				
Calcium.....	34.41	142	47.71	117
Iron.....	46.97	114	64.57	109
Vitamin A.....	55.56	196	52.24	226
Vitamin C.....	38.96	174	43.78	165

<sup>1</sup> Excludes persons with unknown income.

The following figures show HANES' biochemical measurements of nutritional condition, perhaps a more accurate measure of nutritional status than that offered by data in nutrient intake.

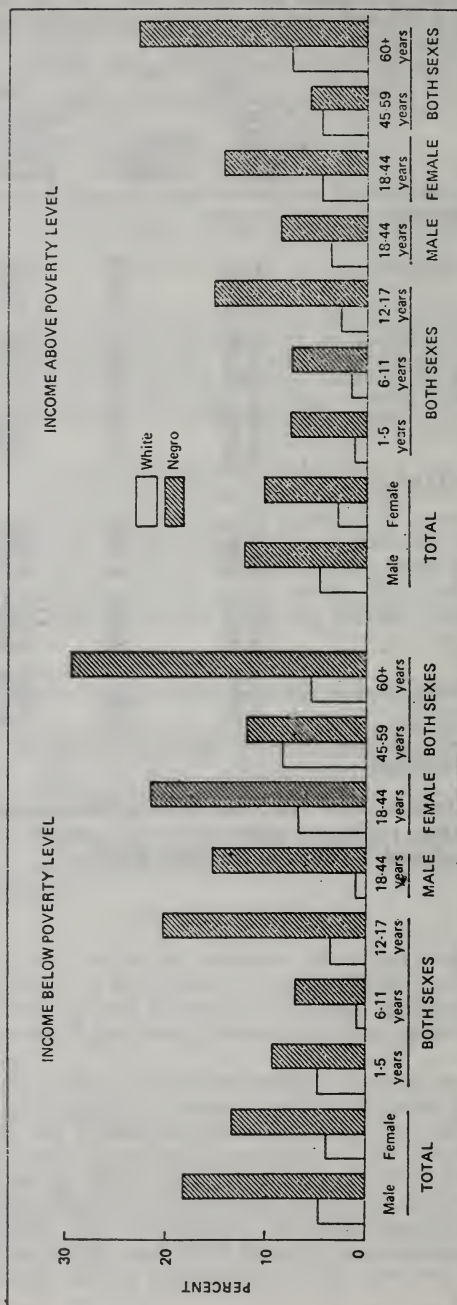


Figure 3—Percent of persons with low hemoglobin values by age, sex, and race for income levels, United States, 1971-72 (HANES Preliminary)

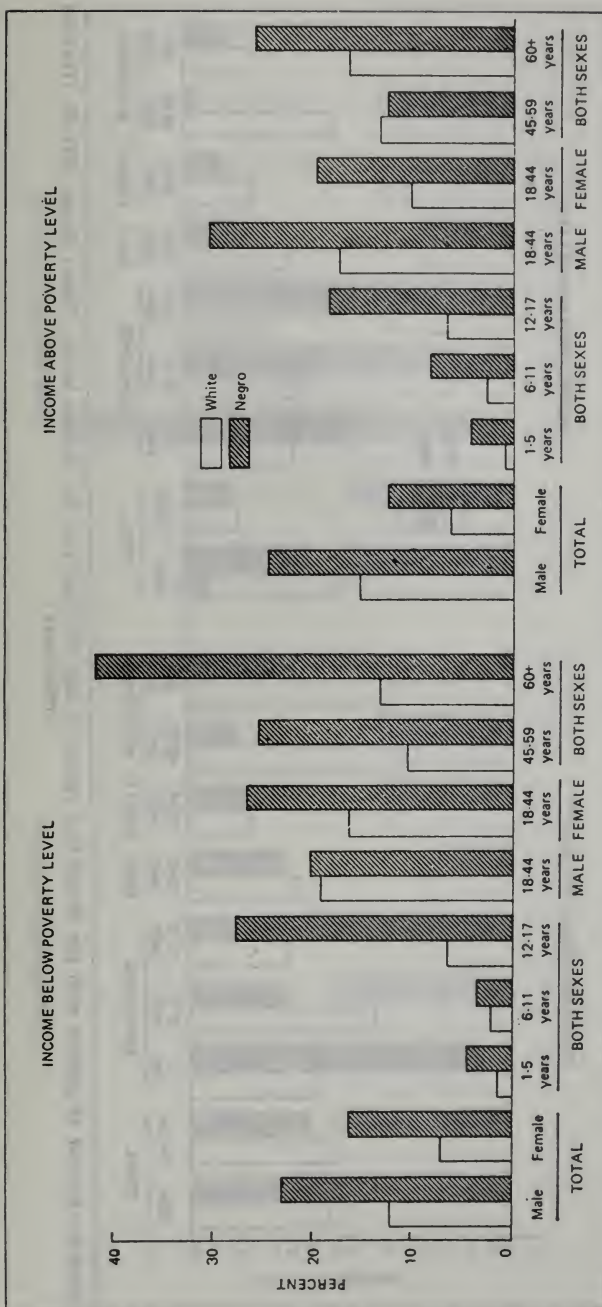


FIGURE 4.—Percent of persons with low hematocrit values by age, sex, and race for income levels, United States 1971-72 (HANES Preliminary)

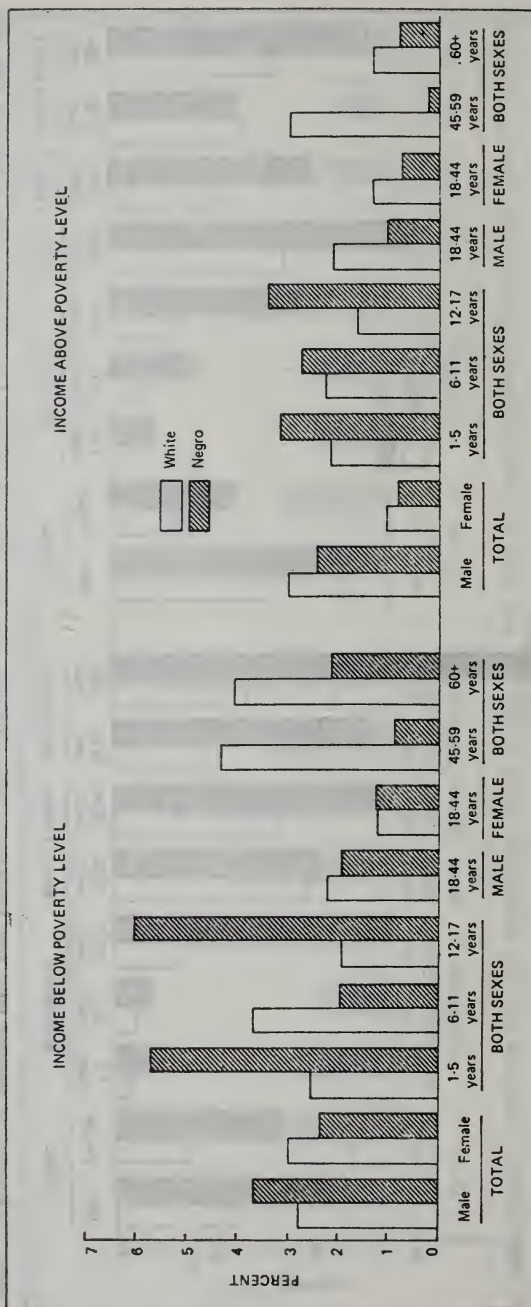


FIGURE 5.—Percent of persons with low serum iron values by age, sex, and race for income levels, United States 1971-72 (HANES Preliminary)

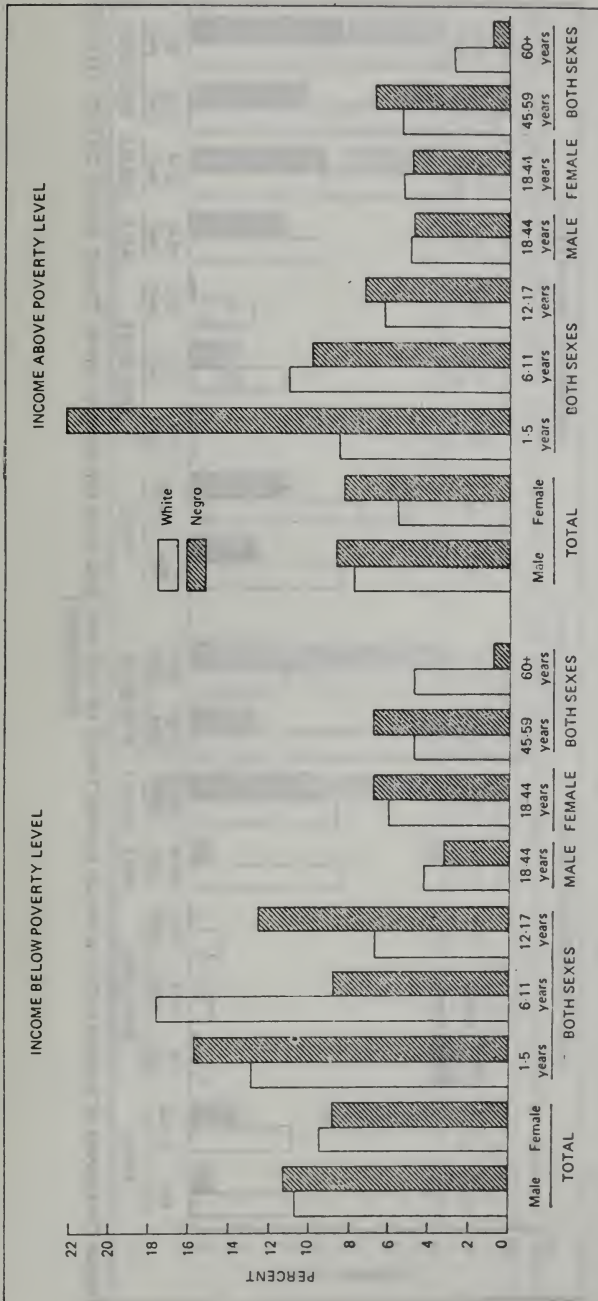


FIGURE 6.—Percent of persons with low transferrin saturation values by age, sex, and race for income levels, United States, 1971-72 (HANES Preliminary)

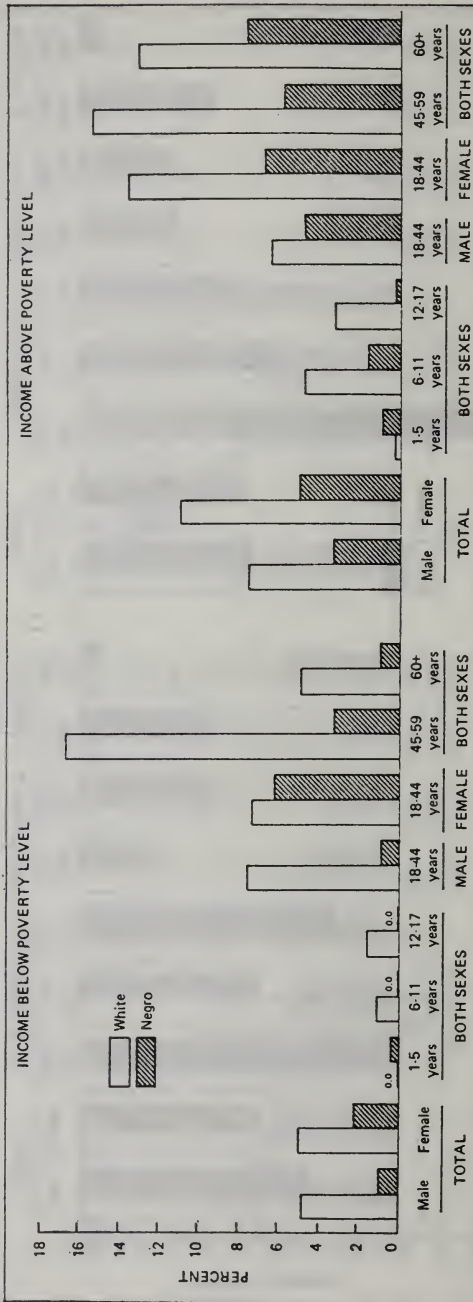


FIGURE 7.—Percent of persons with low serum protein values by age, sex, and race for income levels, United States 1971-72 (IIANES Preliminary)

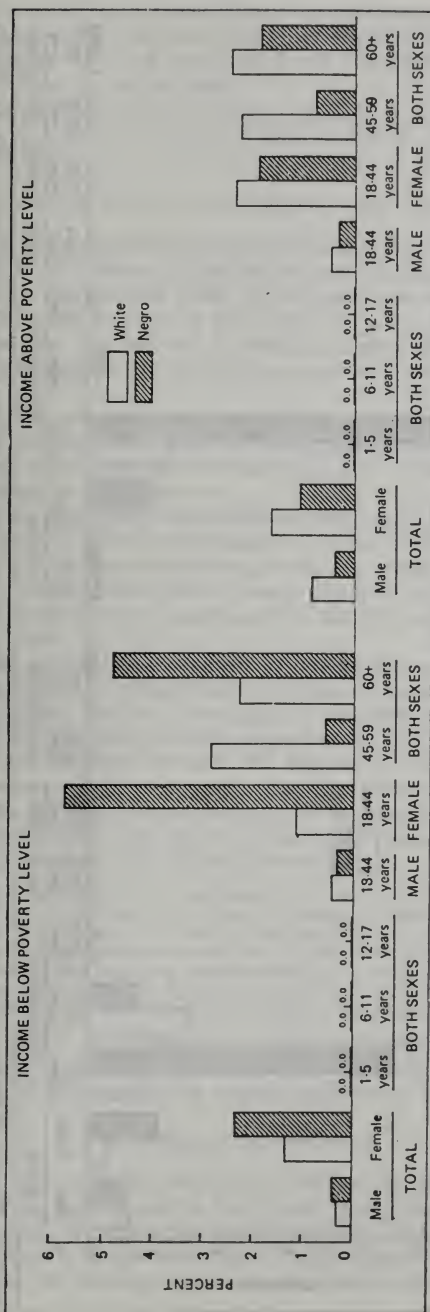


FIGURE 8.—Percent of persons with low serum albumin values by age, sex, and race for income levels, United States 1971-72 (HANES Preliminary)

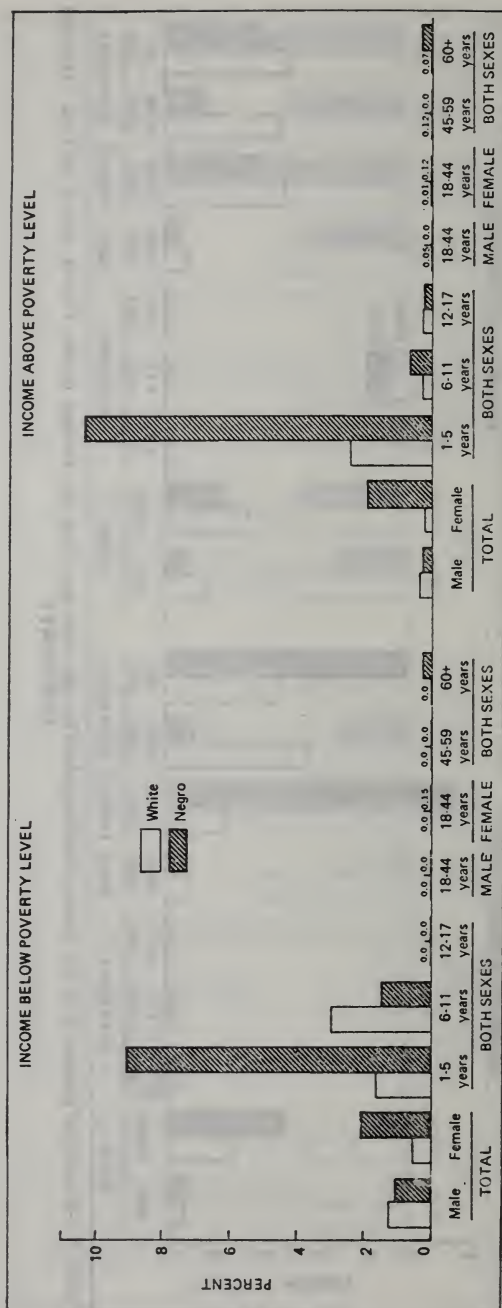


FIGURE 9.—Percent of persons with low serum vitamin A values by age, sex, and race for income levels, United States, 1971-72 (IHANES Preliminary)

While nutrient deficiencies strike at most income levels, the foregoing figures show that the poor are at greatest nutritional risk. This was also a finding of the Household Food Consumption Survey and the Ten-State Survey, which said:

. . . persons with lower income, with lesser parental education, blacks, Spanish-Americans, and persons from low-income areas tend to have a higher prevalence of multiple deficiencies.

#### OTHER FACTORS AFFECTING NUTRITIONAL HEALTH STATUS

Perhaps the most significant factor affecting the composition of the American diet is food prices. Food prices rose 43 percent between September 1972 and September 1975. This rapid increase has led families to trade down on the food scale, from meat to beans for instance, causing an increase in the prices of certain staples. At the same time, shoppers are reported to be buying less convenience foods and returning to basics.

Another significant factor is the shift to eating more meals away from home. Between 1971 and 1974 the percent of personal income spent on meals away from home rose from 3.4 to 3.5 percent, and the trend is expected to continue.

An HEW internal report on nutrition, written in 1971, *What Should be the Department's Role in Nutrition and Diet Pertaining in Health?* (Appendix D), to be discussed throughout this report, said that changing patterns of consumption have "made obsolete some of the food fortification and improvement practices initiated by regulations over the last 20 to 30 years . . ."

Still another factor is the change in composition of foods and the use of food additives. In many cases, we possess inadequate knowledge of food composition, and we are unable to measure its impact. In testimony before the Agriculture Subcommittee of the House Appropriations Committee, in April 1974, T. W. Edminster, director of USDA's Agricultural Research Service, said that there were serious inadequacies in data on nutritive value of foods. In answer to a question from Subcommittee Chairman Whitten on the seriousness of the problem of out-dated information, Mr. Edminster said:

We are getting a great deal of pressure from both Government agencies and industry to extend and revise our reference tables, of which Agriculture Handbook 8, on the Composition of Foods, is the major source reference. It was last revised in 1963. The only reference table dealing with amino acid content of foods dates back to 1957. The only one summarizing data on three of the more recent B-vitamins was issued in 1969. And in many of these, only a few hundred food items may be listed, in contrast to the several thousand now in the market.

Various curative and biological control preparations, increasingly being introduced into the market, also affect nutritional health. For example, use of contraceptive steroid pills may affect Vitamin B<sub>6</sub> nutrition.

#### NUTRITION KNOWLEDGE

In spite of the evidence relating nutrition to health, the obvious changes in eating habits and in food itself, Americans have almost no access to a means of measuring their individual nutritional health.

Although there is ample evidence of widespread nutrient deficiency and imbalance, the average medical examination does not thoroughly

inquire into the nutritional status of the patient. The rate for heart attack among men from 35 to 44 years is five times greater when the blood cholesterol level is over 260 mg% than if it is under 200 mg%, yet how many men know their cholesterol level? Iron deficiency anemia is widespread among children and can affect learning, but how many mothers know the iron status of their children?

A report on nutrition research prepared by the Nutrition Interdisciplinary Cluster of the President's Biomedical Research Panel of the National Academy of Sciences says:

In general, our approach to good nutrition has been to provide the recommended dietary allowance of nutrients for everyone and more recently to restrict excess caloric intake to reduce the risk for certain diseases. Even though this approach through public health measures and education has been extremely beneficial, it is inadequate in providing optimal nutrition for the individual.

Chapter I of this report will show that the medical profession has been extremely slow to take nutrition seriously. Doctors and nutritionists consulted in the preparation of this report said uniformly that nutritional evaluation in most physical examinations is done in a cursory fashion, if at all; that no uniform standards are currently being applied in nutritional assessment; and that doctors generally do not follow up on prescribed diet changes even though experience indicates that the importance a physician attaches to a diet is a major factor in its success. Possibly the most striking evidence of the medical profession's disdain for nutrition, however, are the findings of malnutrition in hospitals.

In addition to those ignorant of their nutritional status, there are millions of people suffering diet-related chronic illnesses who need proper diet management but who are not receiving it, largely because of a shortage of qualified nutrition counselors. An article by Dr. Lawrence Power, chief of medicine and chief of endocrinology at Detroit General Hospital, offered in testimony at hearings on national health insurance, held in July 1974 by the House and Ways Means Committee, discusses this problem:

. . . the average patient today is disabled by a disease that has been present for five or ten or more years. The leading causes of death in the United States are now coronary artery disease, obesity, emphysema, hypertension, diabetes and cerebral vascular disease. They are all characterized by progressive (often asymptomatic) stages of development evolving over many years. Yet "the system" continues to address itself to "the crisis." Its emphasis, for example, is on the heart attack and its management, not the coronary artery disease that leads to it and its prevention.

Most patients presently in need of medical care do not have traditional disease illnesses . . . . Most patients have long term, quietly grumbling disabilities that are manageable for protracted periods of time. Diabetes and arthritis come readily to mind. Such patients require the kind of supportive services that few existing health care centers are able to give. Such patients need a new kind of health provider. They need new ways of being instructed in the management of their disorders . . . . The average patient is taught little or nothing about his medication and even less about the aims of therapy. As an example of these shortcomings in the diabetic section area, many patients recently selected at random from within our own waiting room population could not indicate what a food exchange was, why they were testing their urine for sugar, and the meaning of ketones if they found them.

As will be discussed, the HEW internal report, *What Should be the Department's Role in Nutrition and Diet Pertaining to Health?* (Ap-

pendix D), indicates that HEW has been aware of the shortage of manpower in nutrition counseling at least since 1971, but it has not acted on the study's recommendations.

## MONITORING NATIONAL NUTRITIONAL HEALTH

Chapter II of this report discusses the failure to establish an effective nutrition monitoring system in the United States and the consequences of this failure.

We find, for example, that the nutrition data being used to establish the allotment for the Food Stamp program, as well as standards for other public and private users, are inadequate, being drawn solely from the USDA's Household Food Consumption Survey, which measures consumption patterns but does not measure the impact of consumption on health through physical examination and laboratory testing of biochemical condition.

The first survey to measure both consumption and nutritional health—the Ten-State Nutrition Survey—was conducted from 1969–1970 and was prematurely dismantled when its findings of malnutrition began to force expansion of Federal feeding programs. Its successor, the Health and Nutrition Examination Survey, has provided useful information, but its usefulness is extremely limited because it does not identify at-risk groups by location nor are data provided in a timely fashion.

Furthermore there is a need for a continuing monitoring system aimed especially at groups at high nutritional risk that would not only check physical and biochemical status but measure and report on the probable impact of changes in food prices and other important variables.

The internal HEW report mentioned above indicates that the Department was advised by its own officials as early as 1971 of the need to improve nutrition surveillance, but it has not followed the steps recommended.

## FILLING THE VACUUM

The vacuum in individual and collective nutrition knowledge leaves the field open for "painless" diet plans and fraudulent reducing devices. It also allows the food industry, through advertising, to guide diet choices toward the most profitable foods and toward ever-increasing food consumption. The report of the Select Committee's subpanel on obesity and disease said:

Since promotion of food is relevant to obesity, it is important to know the magnitude of expenditures for food advertising. Ullrich and Briggs (J. D. Ullrich and G. M. Briggs in "The General Public" in *U.S. Nutrition Policies in the Seventies*) state that this amount is about four billion dollars yearly. In contrast, the Nutrition Foundation, an agency to which many of food industry groups belong and which has unbiased and sound nutrition as one of its aims, has only about \$100,000 per year available to it for this purpose. Educational materials prepared by the National Dairy Council and National Livestock and Meat Board are in wide use in many classrooms around the nation.

How much money is available for education in obesity prevention to a representative consortium of consumers and health scientists, free of even indirect obligation to the food industry? How much of the public's current attitudes and information are determined by the nature of the advertising to which they are exposed?

Not only do television networks find great economic advantage in food advertising, they would find considerable economic peril in running ads attempting to counter heavy consumption of the foods found related to health problems. A television executive said in an interview he was free to run nutrition spots showing the virtues of eating nutritious foods that would be alternatives for food such as candy but that pressure from advertisers would not permit spots advising reduced consumption of foods containing high levels of cholesterol or sugar. A recent article in the *Wall Street Journal* reported that "a large soft-drink company" had pulled its ads off WBZ in Boston for a month after the station's consumer reporter read a list of "10 terrible foods," produced by the Center for the Study of Science in the Public Interest. Included in the list were: Pringels potato chips, Wonderbread, bacon, Gerber baby food and Coca Cola.

Attempts to solve nutrition problems through greater general information, such as nutritional labeling are important, but even this information may be overridden by advertising. The Federal Trade Commission has attacked various erroneous nutrition claims and is now considering a trade regulation that would require food advertisers to provide nutrition information in any ad making a nutritional claim.

The commission rejected, however, a staff proposal for a regulation that would require nutrition information to be included in every food ad.

The report supporting the staff position strongly implied that although certain foods are required to have nutrition labelling, this does not provide adequate protection for the consumer:

The existence of nutrient labelling is itself an affirmative reason in support of advertising disclosure. Without advertising disclosure, massive food advertising may well undermine or even defeat the intended purpose of nutrient labels. Massive food advertising which avoids the subject of brand-specific nutrition information—and instead attempts to sell food products solely for such factors as taste, appearance and association with social pleasures—has the capacity or tendency to obscure the importance of nutrition and to reduce the importance or relevance of nutritional labels to consumers.

The report further noted a study which indicates that "in the absence of information to the contrary from an authoritative source, consumers believe that heavily advertised name brands are good products, high in nutrient value."

Hearings on the new regulations began in June 1976. But there is almost no chance that the Commission will reverse itself and accept the staff-proposed rule. An official said the food industry "is lined up to fight World War III if necessary" to prevent it.

## FOOD PRODUCTION AND NUTRITION POLICY

Until recently it was assumed that traditional patterns of agricultural production and food marketing could be relied upon to provide the majority of Americans with a nutritious diet.

The rise in food and energy prices, starting in 1972, is changing that viewpoint, however. Conservation of resources is replacing consumption as a guide, and the worldwide trend is toward the most effective use of all resources, including food. Whereas resources were perceived to be adequate to provide unlimited selections of all food, it is now becoming clear that choices must be made between types of food to be

grown. Whereas the choice of food to be grown has traditionally been left to the agricultural community, the reduction of plenty is requiring food producers and manufacturers to share with others in the decisions of how limited resources will be used.

This is the challenge of Frances Moore Lappe in *Diet for a Small Planet* in which she argues that continued high consumption of grain-fed beef in the United States and other nations may be leading not only to health problems because grain-fed beef has a high fat content but to the wasting of food resources since it is more efficient to consume grain directly than through livestock. Lappe estimates that the United States feeds about 90 percent of its oats, corn, barley and sorghum to animals as well as "considerable" quantities of milk products, fish meal and wheat germ. Quoting an official of the USDA's Economic Research Service, she reports "we in the developed countries use practically as much grain as *feed* as those in the poor countries eat directly as *food*." (The high price of grain recently has brought some reduction in cattle feedlot operations. A USDA economist estimates that about 54 percent of U.S. cattle were grain-fed in 1975 compared to about 70 percent in 1974. He expects, however, that grain-feeding will rise to about 60 percent by the end of 1976.)

In his conclusion to *U.S. Nutrition Policies in the Seventies*, a collection of reports by experts, based on the findings of the White House Conference, Dr. Jean Mayer, organizer of the conference and the Select Committee's hearings says:

... the complex food supply of a country of over 200 million can no longer be allowed to evolve solely in response to "the forces of the market."

The challenge to the traditional formulators of food policy was acknowledged by the Department of Agriculture's chief economist, Don Paarlberg, in a speech given in September 1975 to the National Public Policy Conference (Appendix E). He said:

The biggest issue of agricultural policy is this: Who is going to control the farm policy agenda and what subjects will be on it?

## HEALTH, THE GOVERNING FACTOR

In times of shortage, health must be the governing factor in the allocation of resources. The importance of this principle is made clearly in a speech by Dr. C. E. Butterworth, former head of the American Medical Association's Council on Food and Nutrition and director of the Nutrition Program at the University of Alabama Medical Center, delivered in May 1975 to the American Society for Clinical Nutrition:

... Shall the farmer plant his crop oblivious to the health needs of the nation? Must the consumer depend on cleverly contrived television commercials to diagnose his symptoms and formulate appropriate treatment? May the State Department permit overseas shipment of food without first determining the potential effect of such shipment on the health of both the donor and recipient nation?

Under circumstances of reduced resources and increased complexity, it becomes essential that a nation have the best possible knowledge of its nutritional status so that health considerations can properly guide food policy.

Chapter III examines the growing influence of nutritional health concerns on food policy which reached a peak during World War II, but then declined, first because of food surpluses, then because of fear of political and commercial consequences.



## CHAPTER I

### ACCESS TO INDIVIDUAL NUTRITION ASSESSMENT

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The greatest present need is for physicians to educate themselves in the whole area of nutrition. It is not enough to know simply that there are four basic foods; and physicians, particularly medical educators, should accept the criticisms of some laymen and women that there are few full-time departments of nutrition in medical schools . . . physicians should educate themselves, and hence their patients.—Dr. Edward H. Rynearson, from an address delivered to the meeting of the American Medical Association, June 26, 1973.

There has been a drive for more than 10 years to make nutrition a respected element of education in all medical schools. In 1962, the Council on Foods and Nutrition of the AMA and the Nutrition Foundation, an organization supported by the food industry, sponsored a conference on the teaching of nutrition in medical schools, at Chicopee Falls, Massachusetts, after an AMA survey found that “medical education and medical practice have not kept abreast of the tremendous advances in nutritional knowledge” and “there is inadequate recognition, support, and attention given to this subject in medical schools.”

A number of studies in addition to the AMA's have documented this failing. In 1958, E. G. High reported in the *Journal of Medical Education* that nutrition was not being adequately covered in medical school curricula, based on questionnaires received from 60 schools. A study by Chi-Pang Wen, Hayleon D. Weerasinghe and Johanna T. Dwyer, *Nutrition Education in U.S. Medical Schools*, reported in the *Journal of the American Dietetic Association*, October 1973, surveyed catalogs of medical schools as current as 1972 and studied questions on nutrition appearing in review books for medical exams. The researchers acknowledged that the study of catalogs had limitations, but they found:

. . . 20 percent of the medical schools surveyed provided some nutrition education in the core curriculum; however, only one-fifth of them—representing 4 percent of all medical schools—offered an independent course. Nutrition “topics” were usually included in descriptions of biochemistry courses in the basic science curriculum and were seldom mentioned as components of clinical courses. The situation apparently hasn't changed since the last survey in 1958.

The study found that the nutrition questions in the review books were inadequate in quantity and quality, and it said:

Thus to improve nutrition education in medical schools and/or upgrade the competency of medical practitioners in nutritional counseling and referral, it may be necessary to educate those who construct medical board and licensing examinations as to what nutritional information is needed by physicians in their daily practice.

A report by Dr. Margaret G. Phillips, *The Nutrition Knowledge of Medical Students*, published in the January 1971, *Journal of Medical Education*, found that the performance on a nutrition exam given in

1967 to second year medical students in four Massachusetts medical schools indicated the majority "were not familiar with many of the basic concepts and information related to nutrition that the panel of experts considered to be important for them to know." Out of a possible 100 points, School A scored 46; B, 35; C, 37; and D, 39.

The Chicopee Falls conference recommended that each medical school designate a person or committee to be responsible for nutrition education and take other steps to raise consciousness about, and greater financial support for, nutrition education.

Ten years later, the same groups held a similar conference in Williamsburg, Virginia, and the summary of the proceedings reported:

While progress has occurred in some schools since that time (1962), the teaching of nutrition has not generally been integrated into the curriculum of the medical student, the training of the house staff or the allied health professions . . .

There were "a few identifiable teaching units in nutrition within American medical schools . . . with a formally named director, coordinator and staff. Some of these present required courses in nutrition supported by electives. In other schools the nutrition content is interspersed within the curriculum of the usual departmental teaching programs and specifically defined nutrition courses exist only as electives . . .

Rarely does there exist funding specifically assigned to support nutrition training of medical students. Federal funding for this purpose has not been allocated. The existing training grants in nutrition provided by the National Institutes of Health are designated for research training, not for teaching applied nutrition to medical students.

Dr. Philip White, head of the AMA's Department of Foods and Nutrition, the successor of the Council on Foods and Nutrition, reports that there has been "very definite progress since the 1972 conference." A report compiled in 1974 by the AMA's Department of Foods and Nutrition said that of the 85 medical schools responding to a questionnaire (there are about 110 medical schools in the United States) 57 had identifiable course material in nutrition in their curricula. Twelve of these had nutrition courses only in the basic science courses; 33 had nutrition training in the more important clinical education; and 12 had it in both clinical and pre-clinical courses. Thus, 47 schools out of 85, or better than 50 percent, offered some significant nutrition training, Dr. White said.

The report said: "It is evident that continued efforts are required to obtain adequate infiltration of nutrition into the curricula of most schools." The AMA sponsors visiting professors to assist medical schools in nutrition training and is planning to provide a scholarship for nutrition research for medical students.

Senator Richard S. Schweiker, a member of the Select Committee, introduced legislation, most recently in 1973, that would have provided grants of \$10 million for each of 5 years to assist medical and dental schools in strengthening nutrition education in their curricula. The bill has not subsequently been resubmitted by Senator Schweiker. Its intent has been accomplished under the Special Projects section of the Public Health Service Act. This section has provided grants to stimulate training in various areas, including nutrition. The Public Health Service Act as passed by the House in July 1975, dropped the Special Projects section. It continues, however, as a title in S. 3239.

In hearings on nutrition education held by the Select Committee in 1973 and chaired by Senator Schweiker, Dr. Stanley Schultz, of the University of Pittsburgh School of Medicine offered some insight into medical schools' reasons for failing to embrace nutrition education.

Perhaps the most important element of education in nutrition; namely the use of nutritional counseling as an instrument of preventive medicine, has been grossly understressed.

Most deficiency states can be readily diagnosed and equally readily treated, but in this country they should never have occurred in the first place.

The reasons for these occurrences are multiple, and many of them, for example, economic pressures, are beyond the scope of medical education.

Nevertheless, medical education is not entirely without fault. Its focus is largely on diagnosis and treatment and the well-known proverb "an ounce of prevention is worth a pound of cure" is just beginning to see the light of day; given the skyrocketing costs of medical care today one might well paraphrase this statement to read "an ounce of prevention is worth a ton of cure."

In short, few medical school curricula adequately stress the potential preventive accrements of proper nutrition in a systematic fashion.

Although every well-trained physician will question their patients with respect to whether or not they smoke cigarettes and how much alcohol they consume, dietary habits are for the most part ignored unless indications of under-nutrition or overnutrition are already apparent.

One of the reasons for the lack of systematic emphasis on nutrition counseling in medical education is that too little is known with respect to the way in which long-term and presumably normal nutritional habits may predispose individuals to acute as well as chronic diseases.

Far more research is needed in these areas and it is not unreasonable to expect that teaching effectiveness will parallel the acquisition of knowledge.

But, perhaps equally important, current curricula tend to underplay preventive medicine in general and the role of nutritional counseling as an instrument of preventive medicine in particular.

For the most part, this subject is taught within the context of acquired diseases so that the inevitable emphasis is one of "crisis medicine" rather than "crisis prevention."

### EXAMINATION FAILURE

One of the most important consequences of this flaw in medical education is the failure of many doctors, if not most, to do a thorough evaluation of patients' nutritional status, conducting physical examinations with an eye for nutrition-related illnesses and performing tests that will reveal nutritional condition.

Doctors and nutritionists interviewed for this report each offered differing criteria for judging nutritional status, and there is no commonly agreed upon standard checklist for measuring it, but all agreed that nutritional evaluation is too often not done at all in general physical examinations. Attempts are being made, however, to develop standards for this evaluation. The National Academy of Sciences' Food and Nutrition Board is working on a handbook that will provide doctors with guidelines for nutritional assessment. The Department of Health, Education and Welfare is completing nutrition screening guidelines for children for use in community health clinics, tentatively entitled *Nutrition Disorders of Children, Screening, Follow-Up, Prevention*, to be published late in 1976.

One of the most complete listings of criteria for both individual and community nutrition assessment is provided in *Nutritional Assessment in Health Programs*, compiled from the proceedings of a conference sponsored by the American Public Health Association under contract from HEW and published first in 1973. Table 3, from that report, presents a plan for various levels of nutritional assessment for adults that might be undertaken for an individual or for a group survey. Data gathered at each level is used as a basis for the next level of examination.

TABLE 3.—LEVELS OF NUTRITIONAL ASSESSMENT FOR ADULTS

Level of approach	History			Laboratory evaluation
	Dietary	Medical and socioeconomic	Clinical evaluation	
Minimal.....	Present food habits; meal patterns; empty calories; dietary supplements.	Name, age, sex; address; socioeconomic level; number in family; brief medical history (including family).	Height and weight; blood pressure.....	Hemoglobin; simplified Dipstix <sup>64</sup> evaluation which would identify presence of protein and glucose in blood, urinary pH.
Midlevel.....	Semiquantitative determination of food intake.	Sequential history: Present health, past history, review of systems, family history, social history (e.g., Cornell medical index); smoking history.	Anthropometric measurements (skinfold thickness, etc.); brief examination by M.D. or physician's assistant; chest X-ray as indicated.	Evaluations for serum cholesterol, vitamin A, vitamin C, and folic acid; urine excretion for thiamine.
In-depth level.....	Household survey data; quantitative 24-hr recall; dietary history; diet patterns as they might influence lipogenic characteristics.	All of the above; personal interview by physician; family history of cardiovascular disease.	Comprehensive health status evaluation by an appropriate health team, by or under supervision of a physician.	Serum triglyceride level, plus those nutrients in mid-level; urine or serum evaluation of pyridoxine status (vitamin B <sub>6</sub> nutriture); evaluation of protein nutriture by height, weight, and chronological age indices; serum essentials and nonessential amino acid ratios; evaluation of vitamin B <sub>12</sub> nutriture by serum analysis; serum iron and serum iron binding capacity; adipose tissue aspiration and fatty acid analysis by gas-liquid chromatography.

Dr. George Christakis, editor of the report, recommends that any general physical examination involve evaluation at least up to the mid-level indicated in the table. He says that most physicians do not give this kind of attention to nutritional status. Appendix F provides other charts from the nutritional assessment report for the evaluation of infants and children; adolescents and the elderly. It is clear from the lengthy list of tests for the elderly that they are a group at special risk and probably the group most neglected in nutritional assessment.

Another set of guidelines for assessment, prepared by Dr. C. E. Butterworth, director of nutrition at the University of Alabama Medical Center and Dr. George C. Blackburn, assistant professor of surgery at Harvard Medical School, appear in the March-April 1975 issue of *Nutrition Today*. The guidelines were developed in response to conditions found in a number of hospitals and discussed by Dr. Butterworth in the March-April 1974 issue of the same magazine.

I am convinced that iatrogenic malnutrition has become a significant factor in determining the outcome of illness for many patients. (Since "iatrogenic" is merely a euphemism for "physician induced," perhaps it would be better to speak forthrightly and refer to the condition as "physician-induced malnutrition.") I suspect, as a matter of fact, that one of the largest pockets of unrecognized malnutrition in America, and Canada too, exists, not in rural slums or urban ghettos, but in the private rooms and wards of big city hospitals.

Dr. Butterworth, who has trained medical students and house doctors, presented five case histories of patient malnutrition that prolonged illness, and said: "I have had the opportunity to visit a number of hospitals, and to discuss the situation with many physicians and nutrition scientists. As a result, I am convinced that the problem of hospital malnutrition is serious and nationwide."

The article then lists the following failings affecting the nutritional health of hospital patients:

1. Failure to record height and weight.
2. Rotation of staff at frequent intervals.
3. Diffusion of responsibility for patient.
4. Prolonged use of glucose and saline intravenous feedings.
5. Failure to observe patient's food intake.
6. Withholding meals because of diagnostic tests.
7. Use of tube-feedings in inadequate amounts, of uncertain composition, and under unsanitary conditions.
8. Ignorance of the composition of vitamin mixtures and other nutritional products.
9. Failure to recognize increased nutritional needs due to injury or illness.
10. Performance of surgical procedures without first making certain that the patient is optimally nourished, and failure to give the body nutritional support after surgery.
11. Failure to appreciate the role of nutrition in the prevention and recovery from infection; the unwarranted reliance on antibiotics.
12. Lack of communication and interaction between physician and dietitian. As staff professionals, dietitians should be concerned with the nutritional health of every hospital patient.
13. Delay of nutrition support until the patient is in an advanced state of depletion, which is sometimes irreversible.
14. Limited availability of laboratory tests to assess nutritional status: failure to use those that are available.

In the more recent article, Butterworth and Blackburn say:

It is our belief that malnutrition has for too long been identified with the "classical" vitamin deficiency syndromes by physicians and other health professionals. Although these far-advanced syndromes are occasionally encountered and should not be missed, overt vitamin deficiencies are best regarded as rare

medical curiosities. By contrast, protein-calorie malnutrition, which henceforward will be referred to by the abbreviation "PCM," which develops in the hospital, has been found to affect from one-fourth to one-half of medical and surgical patients whose illness has required hospitalization for two weeks or more.

The standards used in accreditation of hospitals deal with nutrition, but primarily in relation to food preparation and the duties of dietitians in assuring that patients have a proper diet. As will be discussed, dietitians rarely have time to perform all the duties specified in the accreditation standards. The AMA has proposed to the Joint Commission on Accreditation of Hospitals revised standards for nutritional care that would place greater emphasis on nutritional assessment and monitoring.

Appendix G contains the Butterworth-Blackburn article and tables for patient evaluation, offering standards that would be useful for examinations in doctor's offices as well as hospitals. It is apparent that since this kind of information is needed for hospitals it is not being used generally by doctors outside the hospital.

Butterworth and Blackburn place the responsibility for nutritional health of hospital patients squarely on the doctor.

The attending physician must bear the ultimate responsibility for determining the patient's nutritional requirements and providing a means to supply them under the circumstances dictated by the clinical situation. His function is catalytic since without his initiative the ancillary resources of the hospital cannot be activated on behalf of the patient. Only on his signal can the special skills of nurses, dietitians, pharmacists, and consultants be brought to bear on the problem at hand. If these services are inadequate, the physician resolutely should send the patient to another hospital capable of providing whatever nutritional support services are necessary to sustain the patient during his illness.

And Dr. White, of the AMA's Department of Foods and Nutrition, said in an article in the September 1975 issue of *Comprehensive Therapy*:

Studies carried out by the department of foods and nutrition have revealed that, although physicians usually remember to give dietary orders, they do not always remember to ascertain if the patient is, in fact, eating the diet prescribed. This was found to be true whether a house diet or a special therapeutic diet was ordered. To be on the safe side, the physician cannot assume that a patient eats. He should establish a chain of communication that brings such matters to his immediate attention. He should learn the first names of the dietitians. Although most hospital stays are of relatively short duration, he should not take nutrition for granted.

This principle of responsibility should be applied to out-patient treatment as well. Sheila E. Henderson, director of the nutrition section of Lutheran General Hospital in Park Ridge, Illinois, said that one of the major causes for failure to adopt a new diet is lack of interest by the patient's doctor. The same point was made by Dorothy Kolodner, a nutrition consultant at Magee-Women's Hospital in Pittsburgh, testifying before the hearings on nutrition education chaired by Senator Schweiker:

It is still my conviction that the physician remains the principal change agent that many patients listen to because of our inculcation of who is the primary source of information, who is the person that really knows and that these physicians were (giving) very little incentive for patients to either improve diet, restrict diet or whatever the prescription might be.

The other thing that was interesting to me was that once the patient had been given over to the nutrition aide, the doctor was really not very much interested in following up with what happened. He made very little correlation between the

outcome of that pregnancy and the patient's pregnancy nutritional status or delivery status, what happened to her after she left the acute care delivery system.

## THE NUTRITION COUNSELING SYSTEM

Doctors often defer the job of nutrition evaluation and counseling to dietitians and nutritionists. (The distinction between the terms dietitian and nutritionist is not well defined. The ADA describes a nutritionist as a dietitian with advanced training, usually involved in community health programs. The Association is trying to phase out the term nutritionist.) The structure of the nutrition counseling system is not easily definable, but it is possible to categorize the services which provide nutrition assistance and the key problems in expanding these services. (The following summary will discuss counseling related primarily to medical services and does not cover assistance offered by agencies such as the Department of Agriculture's Extension Service.)

There are no accurate figures on the numbers of dietitians and nutritionists employed in the United States, the jobs in which they are employed and their degree of training. The ADA's Commission on Dietetics said in its 1972 report ". . . the Commission must emphasize the lack of reliable data (on manpower). We have made some estimates which are little better than informed guesses." An ad hoc task force, studying manpower needs for dietitians and nutritionists in public health, said in *Professional Health Manpower for Community Health Programs*, published in 1973:

At the present time both the government and the schools lack an adequate means of bringing relevant data to bear on this question (of manpower needs), and in the absence of such data the schools will continue to function without either the assurance that their graduates will find appropriate employment or that their training is maximally relevant to the jobs they are likely to find.

Officials in HEW's Division of Associated Health Professions are fully aware of the deficiencies in personnel data but say they do not have the funds to conduct needed studies.

Estimates based on data provided by the ADA and the Bureau of Labor Statistics indicate that there are between 30,000 and 33,000 dietitians and nutritionists employed in the United States. The ADA estimates that between 50 and 60 percent of the work force is employed in patient care, or 16,000 to 18,000.

We estimate that about 14,500 of these are employed in hospitals and health maintenance organizations; with another 1,500 to 2,000 in public health care; and about 1,000 in private practice consulting with extended care facilities or involved in referral services to which doctors may send patients for counseling.

## HOSPITALS

A 1974 job survey by the ADA showed approximately 10,500 dietitians employed in hospitals, but this is a conservative estimate since a number of dietitians may not belong to ADA. The Association estimates that only 40 percent of the total is primarily involved with patient counseling. The majority are either strictly administrators or have responsibility for overseeing food preparation and counseling patients.

Hospital dietitians generally work under difficult conditions; usually the dietitian-patient ratio is about 1 to 100. Dr. Lawrence Power, chief of medicine and endocrinology at Detroit General Hospital, described the circumstances of many hospital dietitians in an article in the *Journal of Nutrition Education*, October-December 1973, entered as testimony during national health insurance hearings held in July 1974 by the House Ways and Means Committee:

She is routinely called at the last minute to instruct patients who have been hospitalized for several weeks and are now dressed for discharge with waiting relatives double-parked on the street below.

Even without these routine impediments, the dietitian is expected in a consultation or two to change the life-long habits of a group of slowly comprehending patients for whom truly effective training would require hours of time and weeks of visits.

An official of the American Hospital Association said that many dietitians would have more time for counseling if they delegated more of their non-counseling duties, but she acknowledged that in most hospitals dietitians would have difficulty meeting the hospital accreditation standards requiring them to make rounds with doctors when necessary because these rounds are often irregularly scheduled.

Statistics gathered in 1969 by HEW, reported in *Health Manpower in Hospitals*, found 9,400 dietitians employed full-time in hospitals of all types, including Government-operated hospitals, with 6 percent of the budgeted positions unfilled. The vacancy rate was 3.9 percent in Federal hospitals; 7.9 percent in State and local government hospitals; and 5.8 percent in nongovernmental hospitals.

A preliminary report of a 1973 HEW study of hospital manpower, *Survey of Selected Hospital Manpower, February 1973*, found 9,377 full- and part-time dietitians employed in "community hospitals," that is hospitals both publicly and privately owned offering general medical and surgical care rather than specialized care such as for tuberculosis. The national vacancy rate was 4.9 percent. Vacancy rates by region were: Northeast, 4.5 percent; North Central, 4.5 percent; South 6.9 percent; and West, 3 percent. The 1973 survey found 6,986 dietitians employed in community hospitals full-time. The report cautions, however, that there may be considerable error in its figures because of sample size and sampling error.

A growing number of hospitals and health maintenance organizations are offering nutrition counseling for out-patients. An example is Lutheran General Hospital in Park Ridge, Illinois, where diet counseling is done on both an individual and group basis. (In the case of group counseling, the patient attends an individual counseling session before joining a group.) Appendix H is the out-patient fact sheet explaining the service to doctors. The hospital has a continuing diabetic counseling clinic, which charges \$35 for four 1½ hour sessions, and a continuingly obesity clinic is being planned. The hospital also offers individual counseling at the rate of \$12 an hour.

Sheila E. Henderson, director of the hospital's nutrition section, says that for every person using the service:

There are many more with the same or greater needs who cannot afford it or are not willing to pay for both health insurance (and the service). There are many more who assume that it really couldn't be very important if it is not covered by any insurance programs and are not fortunate enough to have a physician who recognizes and supports the need.

... since nutrition counseling is not covered by any federal health care legislation nor available through Blue Cross or any other private third party payers, the cost of providing this service is the major deterrent to its expansion.

The hospital also offers nutrition counseling for its ambulatory care, prenatal and family planning clinics, and the nutrition staff also gives community nutrition presentations.

The Lutheran General dietitians are part of the division of medicine rather than food preparation, unlike those in most hospitals. There are about 80 patients for each dietitian, but this still does not permit patients the kind of attention they should have, Mrs. Henderson says.

Mrs. Henderson's concerns about third party payment reflect the position of the ADA. In a statement prepared for the annual meeting of the American Dietetic Association in October 1975, Joan M. Karkeck, assistant director of the dietetic services at Harborview Medical Center in Seattle said:

We are struggling in our hospital to maintain a position for a part-time dietitian to work in our outpatient clinics. The demand for the service exists and is growing. The hospital association reports that outpatient visits increased 11.2 percent in 1974 while hospital occupancy continues to decline. The Nutrition Clinic at Harborview had a 40 percent increase in patient visits in 1974. We feel confident the need and the demand for an outpatient nutritionist exists, but we are less than confident that we can maintain the service because we are seldom reimbursed. Welfare in Washington and most other states will not pay for rehabilitative or preventive health care. We may be forced to limit or eliminate welfare patients because of this. Third party payers such as medical insurance companies have been very hesitant to pay for nutrition counseling, outside the hospital. Indeed, I have known patients who were hospitalized for little more than nutrition counseling and general health teaching. This is, at best, a costly answer to the problem.

She then quoted from a report in the January 1975 *Journal of the Canadian Dietetic Association* that estimated that the expenditure of \$25.7 million in salaries for 2,155 nutritionists would save \$174.3 million in hospital care costs.

The ADA is also urging that Medicare and other third party payers cover nutrition counseling in the home as part of home health care visits.

#### HEALTH MAINTENANCE ORGANIZATIONS

There are approximately 160 health maintenance organizations in the United States, that is organizations offering basic medical services for a fixed, pre-paid fee. As with hospitals and other health care providers, there are no statistics on the numbers of dietitians and nutritionists employed by HMO's. Some of the HMO's have hospitals with dietitians who serve in the hospitals and also may counsel in outpatient clinics. A survey of several HMO and HEW officials indicates, however, that out-patient nutrition services are not yet well developed in the HMO system. This is due primarily to the newness of the system, which has not yet attracted a large enough membership to support many full-time nutritionists or dietitians. (Out of 162 HMO's listed by HEW, 129 began operation in 1970 or later.) An HEW official estimated that an HMO would probably have to have at least 50,000 subscribers to support a full-time nutrition counselor. There are only 16 HMO's with 50,000 or more subscribers and only nine of these have more than 100,000 subscribers.

One of the most comprehensive nutrition programs is offered by the Health Insurance Plan of Greater New York, which went into operation in 1947 and started offering nutrition counseling in 1958. HIP has 12 full-time nutritionists and eight health advisors, who do nutrition counseling along with other tasks, to serve 736,000 subscribers on an out-patient basis. The counselors handle referrals from HIP doctors and provide group counseling for those with conditions such as hypertension, diabetes and obesity.

Regulations under the Health Maintenance Organization Act of 1973 require that HMO's receiving government assistance provide nutrition education and counseling. These services may be provided by a clinical worker other than a dietitian or nutritionist, but in such cases a nutrition professional must be employed as a consultant to the HMO on a continuing basis. Currently 15 HMO's have qualified for funds under the 1973 Act and 50 others have submitted applications.

#### PUBLIC HEALTH CLINICS

The 1974 ADA survey found 1,800 dietitians and nutritionists employed in public health. Of this total, the ADA spokesperson said, about 1,000 are involved in direct counseling, with the others in administrative positions.

Most of the government effort in dietary counseling is directed toward pregnant women, mothers, infants and children. This is seen as a high risk group and one with the highest probability of following dietary advice. Adults other than pregnant women and mothers generally have less access to these services. The 56 States and territories each have Maternal and Child Health Programs and Crippled Children's Programs, of which nutrition counseling is an integral part. Historically, Title V of the Social Security Act, which covers maternal and child health, has supported nutrition services, including dietary counseling.

In addition, there are 157 community health centers, including migrant and Appalachia health projects, but an official of the Department of Health, Education, and Welfare said that HEW does not have a complete idea of the extent and kind of nutrition services being offered in these clinics, and the Department is preparing nutrition screening procedures to strengthen the nutrition component of these clinics.

Appendix I is a Library of Congress report on Community Health Service Center programs, showing numbers of people served and the legislative history relating to nutrition in these centers. The report shows that nutrition has been low priority or had no priority in the centers.

State sponsored nutrition counseling services vary widely from state to state. The most recent report offering any impression of service is a listing of nutrition positions, prepared in 1973 by HEW. Appendix J is an article by officials of the Center for Disease Control, based on the report, describing State nutrition activities in general and suggesting an agenda for the States. The HEW report shows a total of 496 positions, of which 51 were vacant. Many of these, if not practically all, are administrative positions, however, some of them carry responsibility for clinical services including counseling. In addition, others in the clinics, doctors and nurses, also provide counseling.

In addition, many city and county health agencies employ nutritionists, and it is estimated that there are about 500 nutrition positions in these jurisdictions, nationwide. At this level the nutritionists usually spend most of their time in direct counseling. Nutrition counseling is also provided in the home by dietitians and visiting nurses.

#### NUTRITION REFERRAL SERVICES

The most recent development in nutrition counseling is the nutritionist who practices privately, advising patients referred by doctors. The ADA survey showed about 700 dietitians and nutritionists in private practice, but a number of these act as consultants to nursing homes.

Developing a referral practice is difficult, according to Carol Hunerlach, who began in private practice in Maryland in 1968. She has a B.S. in nutrition from Iowa State University and also has completed a post-graduate residency in biochemistry at the Israel Institute of Technology in Haifa and received an M.S. in medical dietetics from the University of Delaware. She has counseled referrals from about 100 doctors, but she finds the volume not large enough to provide full-time occupation.

The major problem confronting nutrition referral, says the spokesperson for the ADA is that "very few people will pay for nutrition counseling." Consequently, the ADA hopes that referral service will be covered eventually by third-party payments.

#### THE THIRD PARTIES

As already mentioned, a major change that would contribute to expansion of nutritional counseling services is third-party payment for out-patient counseling. The Blue Cross Association, the policy coordinating and monitoring group for Blue Cross plans, reports that Blue Cross plans generally covers only in-patient nutrition service, not out-patient counseling, although nutrition service may be covered in a Home Health Care plan now under consideration. Walter J. McNERney, president of the Association has expressed concern for nutrition as part of preventive medicine, but the Association has not made a national policy statement on nutrition. Medicare and Medicaid use essentially the same criteria as Blue Cross in relation to nutrition services. National health insurance proposals vary in their coverage of nutrition counseling. H.R. 1, the Kennedy-Gorman Bill, would provide the kind of coverage sought by the ADA.

Senator George McGovern, Chairman of the Select Committee, introduced a bill in October 1975, S. 2547, that would authorize reimbursement for nutrition counseling as a home health service under Medicare.

#### DISCUSSION

Reviewing the situation, we find doctors are generally unprepared by their medical training to appreciate the importance of nutrition and consequently they are unprepared to make thorough nutrition evaluations or to do conscientious nutrition counseling. Only about half of the Nation's medical schools, by estimate of the American Medical Association, offer nutrition training that might be considered

approaching adequacy. This estimate may be high, but in any case there has been improvement over the last 10 years. There is quite a way to go however, judging from findings of malnutrition in hospitals. Drs. Butterworth and Blackburn report that one-quarter to one-half of general medical and surgical patients hospitalized for two weeks or more may suffer from protein-calorie malnutrition.

HEW has recently taken more interest in nutrition training of doctors. An official in the Division of Medicine of the Bureau of Health Manpower has been making limited inquiries into the area of nutrition education in medical schools and medical schools have been advised that nutrition is among the priority items for grants funded under the Special Projects section of the Public Health Service Act. HEW is making no study, however, of the degree to which nutrition training has been introduced into medical education, nor is anyone in the Department assigned to deal specifically with this problem.

The limited training and interest in nutrition among doctors has resulted in the almost total transference of the task of nutrition evaluation and counseling to dietitians and nutritionists. Unfortunately there are not enough of these specialists to meet the need.

In 1971, the internal HEW report *What Should be the Department's Role in Nutrition and Diet Pertaining to Health?* (Appendix D), pointed out that there was a serious shortage of nutrition manpower.

On the basis of program experience many health officials feel that data such as the following indicates a shortage of nutrition manpower which may require more attention in health manpower legislation and its implementation. The vacancy rate in nutrition positions budgeted in State and local health agencies continues to be between 15 and 20 percent. In an informal (1966) study of Projected Needs for Public Health Nutritionists in State, city and county levels, replies from 37 States indicated that present supply would need to be increased by 100 percent. A wide range in ratios of dietitians and nutritionists to population exists in States, e.g., Utah with 6/100,000 population versus Massachusetts with 22/100,000. Forty-five States have less than 20/100,000 population. Using a ratio of 1/50,000 population (the) Division of Allied Health Manpower computed that about 4,400 community nutritionists would be needed. PHS-AHA surveys indicated that many openings for dietitians are unfilled. Surveys indicate that an estimated 20,700 dietitians will be needed in hospitals in 1975 compared to approximately 13,000 presently employed.

To increase the number of nutrition personnel, the report suggested:

. . . making nutrition personnel eligible for payments as providers of health care services and stipulating dietary counseling services as an eligible service for third party payment in national health insurance plans. This would require that *legislation* identify nutritional care as an essential component of preventive health care services and stipulate dietary counseling services as an eligible service for third party payment.

And the report said:

"Nutritional service must be a reimbursable item in health care if it is to become a part of the health care system."

In spite of this 1971 report, HEW has taken no real action to increase nutrition manpower. The Division of Associated Health Professions, under the Bureau of Health Manpower, which would be the vehicle for Federal stimulation for nutrition training has not had enough staff to study nutrition manpower needs. There is no

official in HEW charged with the sole responsibility of increasing nutrition manpower.

#### FEDERAL SUPPORT

Federal support for the training of dietitians and nutritionists amounted to about \$2.5 million in Fiscal Year 1975, or about 6.25 percent of the total \$32.2 million expended for training in public health and allied health professions under the Public Health Service Act. (This total does not include any of the \$5.9 million provided under formula grants to schools of public health. There is no way of determining how much of these grants are used for nutrition training.)

A staff study of funding needs of nutrition training (Appendix K) indicates greater support is necessary for the new "coordinated" programs that prepare registered dietitians in 4 rather than 5 years by incorporating the year of internship into the 4 years of academic training. There is also a need for additional assistance for advanced training. A survey of 10 directors of nutrition training programs in all major regions of the country, conducted as part of the staff study, supports a finding of a recent ADA report which said:

... the gap between the projected supply of and potential requirements for persons with advanced degrees could almost reach 1,000 by 1980 even without the full implementation of a nation-wide HMO delivery system, which would be quite unlikely. Once such a system were implemented, the gap could increase far upwards of an additional 500.

Proposed changes to the new Public Health Service Act (S. 3239) would expand the possibilities for Federal aid to nutrition training. Dietetics and nutrition would become one of only four types of training eligible for special projects grants to schools of public health. Another provision of the new bill would authorize grants for medical internships in dietetics. The need for greater funding for coordinated programs and advanced training in schools of allied health professions is not covered by the new bill.

Although the Public Health Service Act provides a solid basis for the support of nutrition training, it may not be the best vehicle for this purpose. The Act does not cover all aspects of nutrition personnel needs, and the provisions relating to nutrition training are scattered throughout the Act, making it difficult, if not impossible, to get a comprehensive idea of support offered.

One reason for the random character of the legislation as it relates to nutrition training may be that nutrition evaluation and counseling have never been seen as integral parts of responsible health care. Dietetics in most hospitals continues to be viewed as a matter of food preparation; dietitians are generally on hospital food service staffs, not medical staffs. Nutrition is seen by the medical profession as ancillary to health care rather than basic to it.

These relationships are changing, however, as the limits of curative medicine become more apparent. The Federal role can be to assist doctors and dietitians in working out new systems for cooperation in providing nutritional care and to provide support for expanding these systems.

## RECOMMENDATIONS

1. That Congress approve a Nutritional Health Service Act that would provide support for:

a. Introduction of classroom and clinical nutrition training into all medical and dental schools, with a target date for completion of 1980; and mid-career training of doctors in nutrition.

b. Support for training of dietitians and nutritionists, with emphasis on: advanced training; scholarships for low-income students; and mid-career training.

c. Grants to assist in the establishment of nutrition referral services and the expansion of out-patient nutrition services in hospitals. These grants would be discontinued upon institution of coverage of such services by third-party insurers.

d. Grants to study ways of improving nutrition evaluation and care of hospital patients.

2. That Congress require HEW, in concert with professional organizations, to review medical licensing examinations to determine how they might be changed to encourage improved nutrition education in medical schools.

3. That Congress approve S. 2547 to provide Medicare coverage for nutrition counseling as a home health care service and that Congress require HEW to consult with third party health insurance payers to develop guidelines for coverage of out-patient nutrition counseling.

4. That Congress require HEW to review regulations and laws governing Federal and State health care delivery services to determine changes necessary to ensure that nutrition evaluation and counseling are provided by all these services.

5. That Congress require HEW to consult with appropriate professional organizations and health care providers to determine:

a. Current capabilities nationwide for individual nutritional assessment and counseling.

b. Projected technical and manpower needs in this area over the next 10 years.

Recommendations should be required by January 1, 1977.

6. That HEW consult immediately with the American Hospital Association and professional groups to determine a means of effecting the adoption of nutrition evaluation and care standards in hospitals.

7. That Congress require HEW to embark on a continuing campaign of public education in nutrition that would concentrate on: foods that may be harmful to health, especially those considered too often eaten in excess; common dietary deficiencies; alternative diets; and standards for measuring the quality of nutritional evaluations that should be given during physical examinations. An annual report would be made to Congress on the progress of this campaign for a period of not less than 5 years.

## CHAPTER II

### NATIONAL NUTRITION ASSESSMENT

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Surveillance of nutrition in the United States cannot be accomplished by national surveys which produce some nice figures but usually do not indicate what needs to be done. The nutritional problems in various parts of the country, in various communities, among cultural groups, and so forth, are variable and to a greater or lesser degree require solutions appropriate to the respective groups. We must strive for regional or state systems which will identify problems and provide the support for local programs.—D. Mark Hegsted in an article appearing in the *Journal of the American Dietetic Association*, April 1974.

The importance of studying the Nation's nutritional health is explained concisely in testimony before the Agriculture Subcommittee of the House Appropriations Committee in April 1974, in which T. W. Edminster, director of the Agricultural Research Service listed the uses of the Household Food Consumption Survey.

Information about food consumption and dietary levels is essential to development and updating of USDA food plans or budgets. These food plans are basic to many current Government policies and programs, such as the determination of the poverty line for families of different size and composition, determination of the cost of a nutritionally adequate diet that can serve as a basis for food stamp allotments and even provide the data that would be needed in the event of any price control or food rationing programs. The food consumption data are also used in developing reliable production projections and in making realistic adjustments in production.

These household food consumption surveys provide the information on food use at the purchase level that is likely to be used in developing specifications of nutrient fortification. The Food and Drug Administration plans to use the data to determine which groups of individuals may be taking in foods with any unusual amounts of additives or residues. The National Marine Fisheries Service is depending on this proposed nationwide survey to meet their data needs on consumption of such things as mercury in fish products. And, of course, the food consumption surveys give direction to nutrition and consumer education programs of the Department and of other Federal agencies, since it will tell which population groups have diets most in need of improvement, what nutrients in the diet are below recommended levels, and what specific foods contribute to the total nutrients in the diet.

As the testimony notes, the data being used now to establish the allotment for the \$6 billion food stamp program and for other dietary guidance purposes by USDA and other agencies are being taken from the Household Food Consumption Survey, conducted most recently in 1965-66. A food consumption survey measures food intake, but it is not the best measure of nutritional health. Because it does not gauge the physical health of the body, there is no measure of the impact of the diet.

The importance of physical and biomedical measurement is explained in an article in the July 1974, *Journal of the American Dietetic Association* by Dr. Milton Z. Nichaman, then chief of the Preventable Diseases and Nutrition Activity at the Center for Disease Control.

The major objective data utilized for determining nutritional status are anthropometric and biochemical. The purpose of data on dietary intake in the assessment of both the individual and population groups is to identify avenues for intervention. Although biochemical data may show that a group of individuals is iron deficient, this information is of limited value in planning a program to correct the situation unless one has considerable knowledge of the dietary habits of the group. Conversely, just because an analysis of dietary intake shows that iron intake is below the recommended allowance, there is no assurance that the population is, in fact, iron deficient.

Given the problems of collection and analysis of food consumption data, nutrient losses during handling and cooking of food, and the vagaries of the human memory, the suggestion gleaned from dietary data that a population group is ingesting suboptimal amounts of a nutrient must be confirmed by more objective data. These include biochemical values, body measurements, and the presence or absence of clinical signs.

The deficiencies of the HFCS, particularly as a basis for setting standards for food assistance programs, will be discussed in greater detail later. It is apparent from the foregoing why, although USDA had been conducting food consumption surveys since before 1900, Americans were shocked in 1967 and 1968 by the reports of malnutrition in the United States, of hunger amid plenty.

These discoveries prompted Congress to approve, in December 1967, in the Partnership for Health Amendments, a charge to the Secretary of Health, Education, and Welfare to "make a comprehensive survey of the incidence and location of serious hunger and malnutrition and health problems incident thereto" and "report his findings and recommendations for dealing with these conditions within 6 months."

The mandate from Congress was to devise the first survey in the United States that would measure nutritional health both on the basis of food consumption and physical and biochemical status, identify those at nutritional risk by specific location and report in a timely enough fashion to guarantee prompt remedial action.

Dr. Arnold Schaefer, chief of the Nutrition Program in the Public Health Service, who had administered U.S. nutrition surveys in developing countries, was placed in charge of what was to be the most ambitious program of nutrition evaluation to be undertaken in this country to date. Officials considered conducting a survey of 20 States, but narrowed it to 10: California, Kentucky, Louisiana, Massachusetts, Michigan, New York (with a special survey in New York City), South Carolina, Texas, Washington, and West Virginia. The survey would interview and physically examine 75,900 people in about 22,840 sample households, with the sampling concentrating on low-income areas and would cost about \$5.4 million.

The survey ran into trouble almost immediately. In January 1968, \$1.4 million was assured to get it started, but in April, the fiscal year 1968 funds were cut back to \$750,000. Then in June an additional \$975,000 was approved. The Government Accounting Office noted in a report on the Ten-State: "Thus, about 7 months after the approval of legislation requiring a comprehensive study, contracts had been awarded for surveys in 5 of the 10 States."

Nevertheless, in January 1969, Dr. Schaefer was able to tell the Select Committee that:

The preliminary data clearly indicates an alarming prevalence of those characteristics that are associated with under-nourished groups. Even though these findings come from a small sub-sample of the total National Nutrition Survey, it is unreasonable in an affluent society to discover such signs as those seen to date.

The official recognition and quantification of hunger in the United States by specific location had an almost immediate impact. In May 1969, President Nixon announced increased spending for food and nutrition programs and vowed "to put an end to hunger in America." But at the same time it was clear that administration officials did not like the activist posture of Dr. Schaefer, and steps were to be taken that would prevent the final results of the Ten-State from having any further impact on policy.

In *The Ten-State Nutrition Survey; An Analysis*, published in 1974, Dr. James Carter, project director, Maternal and Child Health/Family Planning, at Meharry Medical College and associate professor in nutrition and pediatrics at Vanderbilt School of Medicine, provides a history of the attack on the Ten-State.

By May 1969, the same month as Nixon's speech, the potential impact of the Ten-State Nutrition Survey had been effectively contained. The decisions were made within the HEW bureaucracy. Containment necessitated several steps. First, the authority requested by Dr. Schaefer to expand the survey into four more states (which statistically would have made it a more completely representative national survey) was denied. In addition, Dr. Schaefer had requested funds both to enable the Nutrition Program to respond positively to the more than ten states which had requested technical assistance in inaugurating their own nutrition surveys and to establish regional nutrition centers which would provide monitoring and surveillance of the problems uncovered in specific populations and would help to establish food fortification guidelines and standards for various nutrients. This request was also denied. Finally, the scope of the Ten-State Survey, was divided in half and shared between two agencies. Despite the objections of such groups as the Food and Nutrition Board of the National Academy of Science, the American Academy of Pediatrics, and the Food and Nutrition Council of the American Medical Association, responsibility for conducting future nutrition studies was assigned to the National Center for Health Statistics, an organization which has historically had no responsibility to report current information. This agency promptly expanded the national health survey then in progress to include nutritional data and renamed it the Health and Nutrition Examination Survey (HANES). Follow-up programs, if any, were to be assigned to the Center for Disease Control—CDC (then known as the Communicable Disease Center).

Before continuing with the Carter narrative, it is important to note that at this point in the Ten-State history, HEW Secretary Robert H. Finch was describing the dismantling of the Ten-State as an improvement in the monitoring system. He told the Select Committee in May 1969:

We feel that we now know enough from the 10 State studies . . . to move into a new phase of activity . . . We now must move beyond the goal of simply determining whether and to what extent under nutrition exists in this country. The next phases of activity must relate the findings of the survey to action programs and to establishing procedures for monitoring the national nutritional status.

In fact, however, steps were being taken to assure that neither the final report of the Ten-State or the HANES would provide prompt reporting on groups at nutritional risk, by specific location. Secretary Finch's statement described the development of "a State surveillance capacity to identify the nature and extent of the problem in terms of families and individuals," but as we will see, such a capacity is far from realization.

Returning to the Carter narrative:

The budget for fiscal year 1970 does show a specific appropriation for the Nutrition Program. But the program's diminished status make whittling away at these funds by other agencies comparatively easy. For example, \$2 million was shifted to the HANES survey and over one half million dollars was used

to construct a new biochemistry laboratory at CDC in Atlanta. Soon Dr. Schaefer was fighting to retain one-sixth of the amount appropriated so that he could finish the survey. By the end of May, one thing seemed perfectly clear: The Ten-State Survey would raise no embarrassing questions about the success of the war on hunger.

During the next year, the survey remained in relative obscurity. But in April 1970, Dr. Schaefer again appeared before the Select Committee. He testified that preliminary results of the survey showed that families of four with incomes of less than \$1,650 a year were five times as likely to suffer serious malnutrition as families earning \$6,600 a year and over. Interviewed by reporters later, he characterized existing Federal feeding programs as "damned ineffective." Schaefer's testimony was the cue for removing the survey from his control. In July 1970, the computer program of the survey was ordered to Atlanta, a move which involved transferring all the computer cards in trucks from Maryland to Georgia and transferring all the information to new cards which could be used on the CDC computer. All but one of the computer staff in Maryland refused the option to transfer. In January 1971, after the computer move was complete, the entire Nutrition Program was moved to Atlanta. Again, virtually the whole staff refused to transfer. In that same month, Dr. Schaefer resigned from the Nutrition Program. He was assigned to the Pan American Health Organization in March 1971.

"The final days of the Ten-State Survey were ridden with controversy. Vice President Agnew launched a scathing attack on the 1969 CBS documentary 'Hunger in America' as part of an offensive accusing hunger fighters of exaggerating the importance of malnutrition in this country. Almost simultaneously, Senator Hollings of South Carolina struck back. Accusing CDC of attempts to suppress the Survey, he released some of the survey's findings in a Senate speech. CDC strenuously denied Hollings' charges, claiming that the delay was due to difficulties in compiling the data. After the furor, the final report of the survey was released with almost no fanfare in the summer of 1972."

In 1973, Senator McGovern asked the Government Accounting Office to appraise the degree to which the Ten-State Survey met the mandate of Congress. GAO found that because of the sampling technique used, the survey "should be considered applicable to only those individuals examined," and the results should not be considered representative of the nutritional status of members of low-income households as a whole."

The GAO report noted:

This survey had administrative problems throughout its life, including:

- a. funding delays.
- b. organizational transfer of the Nutrition Program and loss of personnel.
- c. data processing system changes, including use of different data recording forms.

The final report of the Ten-State was much different than that envisioned by Dr. Schaefer and required by Congress. The statistics were not reported by State, but were lumped together in averages of the States. In this way, Dr. Schaefer said in a recent interview, problems of special groups—migrant workers in Texas, blacks in South Carolina—were submerged. The Ten-State established the importance of physical and biochemical testing in nutritional surveillance, but it is also clear that:

1. The attempt by the Ten-State to provide timely, location-specific data on nutritional health, demanded of it by Congress, has not been repeated.
2. We continue to manage food assistance programs on a pre-Ten-State basis, using only consumption data, not biochemical or physical, as a means of setting dietary standards.

#### CURRENT SURVEYS

Plans are now being laid for the next HFCS, and the new HANES was started in February 1976. First we will consider HANES.

As noted in Dr. Carter's report, surveying begun by the Ten-State is being continued by HANES, under the direction of the Division of Health Examination Statistics of HEW's National Center for Health Statistics. Laboratory work for HANES is done by the Center for Disease Control. The first HANES began in 1971, and data-gathering in the first half of the sample was completed in October 1972; gathering of the full sample was finished in June 1974. The second HANES cycle started with sample testing in Atlanta in November 1975, and the full survey began in February 1976 and will be completed in 2½ to 3 years. (A description of the goals and methodology of HANES II appears in Appendix L.)

Like the Ten-State, HANES gathers data on clinical health and food consumption, but it differs from the Ten-State in two important respects: (1) Data gathered from a national sample and therefore does not identify special nutrition problems by location, making effective remedial action difficult if not impossible. (2) HANES results are not available until from 3 to 5 years after data collection begins, again hampering remedial action. (Ten-State data was provided in preliminary form less than a year after the survey began, and it is probable that the final report would have been issued far sooner had not administrative changes been ordered.)

#### SMALL SAMPLE

HANES II will sample 20,000 to 30,000 persons covering ages 6 months to 74 years old, of various income levels. Since it is a probability sample, it can by definition be representative without drawing from all regions of the country. HANES I drew samples from 30 States and the District of Columbia but did not collect samples in much of the Midwest.

A report entitled *Preliminary Technology Assessment of U.S. Food, Nutrition and Agriculture Information System*, prepared for Congress' Office of Technology Assessment by the consultants Sidney M. Cantor Associates, found that neither HANES or the Household Food Consumption Survey provided information needed to permit prompt corrective action. It said:

HANES and HFCS are designed to give overall views of nutrition status and family food consumption, respectively, on a national scale. The nutrition program official needs to be able to identify target groups and populations in specific geographic areas, to assign priorities according to specified criteria, and to have a simple, efficient approach to program evaluation as well.

In his testimony at the National Nutrition Policy hearings, Dr. David Coursin, director of research at St. Joseph's Hospital in Lancaster, Pennsylvania, said, like Dr. Schaefer, that highly averaged data means that certain vulnerable groups are missed.

... there is concern that the present survey procedures provide averages that may inadvertently conceal the real extent of nutritional problems—particularly in groups at special risk.

For example, we find that migrant workers are not adequately examined under these circumstances. In addition, populations, such as those on Indian reservations, continue to have major problems of inadequate nutrition.

The general study of a varied population also leads to a broader methodological approach. HANES is "painting with a broad brush biochemically," said an expert consulted in the preparation of this report. He and another nutritionist agreed that the survey should be

concentrated on special groups, permitting tests to be designed to develop a deeper knowledge in specific areas.

This need for information about the status of high risk populations is expressed in the recommendations of the 1969 White House Conference. The report of Panel 1-3 said:

... The need to search out nutrition and health needs of special areas and groups is acute. While there is merit in undertaking a national probability survey, the more urgent and immediate need is for the commitment of resources to high-risk populations and areas in order to define particular problems and responses. This goes directly to the determination of the extent and severity of hunger and malnutrition at its worst, availability of delivery of services, and the invitation of solutions.

We recommend that the Department of Health, Education, and Welfare plan to carry out nutrition surveillance and monitoring aimed at selected target populations and areas, and develop techniques for continuing monitoring systems. Techniques need to be developed for monitoring diets and to identify problems before they become clinically evident.

The panel recommended that priority for this kind of study be given to: preschool children; expectant mothers; primary school children; and other low-income people, including Indians and migrant workers.

Arthur J. McDowell, director of the Division of Health Examination Statistics said that HANES I did an over-sampling of low-income groups, but acknowledged that the sample size of this group and the general survey population should be larger and would be larger if more funds were available.

He said that consideration has been given to concentrating on high-risk groups in the third HANES cycle. The surveyors want HANES II to follow the pattern of HANES I to permit identification of trends. This means that the investigations into the nutritional status of special groups would not begin until 1980 at the earliest and that data-gathering might not be completed until 1982 or 1983.

HANES officials hope that State surveillance programs, such as those few now operating with the assistance of the Center for Disease Control will fill some of the gap in information about the nutritional health of high-risk groups. However, the CDC effort, currently extremely limited in terms of age group and geographical coverage, offers no prospect for adequately filling this gap or of providing the kind of surveillance for all groups promised by Mr. Finch.

### THE CDC SYSTEM

As pointed out earlier, the Center for Disease Control in Atlanta entered the field of nutrition surveillance awkwardly, as burial site for the Ten-State Survey. The data gathered in the survey was sent to CDC for compilation for the final Ten State report, with the work being done as part of the Nutrition Program, which was also transferred from Washington.

A memo prepared in 1973 (Appendix M) shows the Nutrition Program involved in a wide variety of activities with a staff of 40 and a budget for fiscal year 1973 of \$2.4 million. The memo, written in May noted as its last item: "The Nutrition Program will be terminated June 30, 1973." An official familiar with the history of the Nutrition Program said, however, that it was effectively dismantled about a year before it was officially terminated, with only grants being handled in the final year.

The follow-up to the Ten-State Survey promised by Secretary Finch, "a state surveillance capacity to identify the nature and extent of the (malnutrition) problem in terms of families and individuals," amounts to much less than his promise.

Scraping together funds from other projects, CDC developed a small program in which it is assisting nine States in gathering, compiling and analyzing height, weight, hematocrit and hemoglobin levels of low-income children involved in EPSDT screening. The work is done by what is known as the Nutrition Activity of the Bureau of Small Pox Eradication, with a staff of about eight professionals, full- and part-time. Among the sources of funding has been the venereal disease control program. About \$250,000 was to be expended for the CDC effort in fiscal year 1976.

Data on growth, obesity and anemia in children, is sent to CDC by five States: Arizona, Kentucky, Louisiana, Tennessee and Washington (more limited work is being done with Oregon, Ohio, Florida and Montana). "The ultimate goal," said a CDC report in January 1975, "is to develop a simple computer system that can be exported to individual States or other geographical entities, which will then be able to handle their own data."

The CDC surveillance involves only children, not only because they are a high-risk group, but because nutritional problems are more easily identified and treated in children. In addition, existing maternal and infant nutrition programs insure that a high volume of low-income children will be tested. The CDC system, because it covers a limited age group, income group, and geographic area in no way begins to meet the need for specific data on high risk populations.

CDC requested \$3 million for fiscal year 1977 to permit expansion of its program to all 50 States, requiring the hiring of 80 additional persons. HEW cut the request to \$1.9 million, which would have permitted the program to operate in 20 States, including the five now in the complete program. The HEW request was cut to zero by the Office of Management and Budget, reportedly because OMB was not authorizing new projects. Upon the request of Senator McGovern, the Labor and Health, Education and Welfare Subcommittee of the Senate Appropriations Committee authorized in June 1976, the \$1.9 million figure for inclusion in the HEW Appropriations bill.

#### TIME LAG

Another major problem with HANES, mentioned earlier, is the time lag in data gathering and reporting. As already noted, data gathering for HANES I took about 2 years and is expected to take 2½ to 3 years for HANES II. Consequently, the first report from HANES II is not likely until 1979.

In his testimony at the National Nutrition Policy hearings, Dr. Coursin said:

The HANES survey does a masterful job at the present time within its frame of reference. On the other hand, this is a cyclical evaluation occurring over a 5- to 10-year period and is not flexible enough to provide current information in order to respond rapidly to national needs.

The time involved in data collection also makes it difficult, if not impossible, to draw any relationship between nutrition status and in-

come since the prices of food are likely to change considerably over a 2½- to 3-year period. The justification for HANES, submitted to the Office of Management and Budget, says:

. . . Federal, State and local efforts in providing food stamps and food delivery programs, cost billions of dollars annually and affect millions of persons directly and indirectly. Many millions of dollars and other scarce resources are expended annually by the public and private sectors on programs; research on the complex relationship of health and nutrition variables; and the delivery of health services to under- and over-nourished persons. Food producers are, or will be, required to label the nutritional contents of their products so that an "informed" public can make more rational selection of foods consumed. Providing concrete indicators over time fulfills a data need provided by no other source on a national basis and at a relatively low incremental cost when combined with other target assessments proposed.

But because of the time lag, it is doubtful whether HANES can make an accurate measure of the effectiveness of Federal feeding programs or provide the data when it is needed for policy decisions.

In addition, the long time-span of the survey permits evaluators to avoid northern climes during the winter with the mobile examination units used in the survey. The result of this is likely to be a failure of data to reflect seasonal differences in nutrient consumption and nutritional status which could have a significant impact on overall findings, possibly indicating better nutritional status than might be found if winter readings were to be taken.

Mr. McDowell realizes that there is a problem with time lag, and says the only cure is more money and personnel. About \$4 million a year is spent on HANES and about half of this is used for the nutritional component. The survey currently employs 34 field workers operating in two mobile examination units. With twice as many units, Mr. McDowell says, the survey could be done in half the time.

More funds are also the answer to the problem of slow publication of reports and inaccessibility of data. The Cantor report for the Office of Technology Assessment said: "Little detailed analysis has been undertaken to determine the nature and extent of any relationship that might exist among different variables" and said that a statistician found the HANES reports "very hard to read."

The data gathering for the first phase of the first HANES was completed in October 1972, but preliminary biochemical and dietary findings were not published until January 1974. Part of the delay resulted from insufficient staff to process the data more quickly. Three statisticians were employed in assembling the preliminary dietary and biochemical report, and they completed their work in April 1973. Editing and printing occupied the rest of the time until publication.

Work on the final dietary, bio-chemical and clinical measurements reports for HANES I is expected to be completed in 1976, however publication of some or all of the reports may not come until 1977. There are currently three statisticians, two nutritionists and two advisors employed in completing these reports and several sub-reports. In addition, they must process new data flowing in from HANES II.

The small staff size will mean lengthy delay of the correlation of certain HANES data that could provide significant insights into the impact of diet on health, such as: the relationship of diet to obesity; the relationship of salt intake to high blood pressure; or the relationship of high blood pressure to obesity and serum cholesterol.

Mr. McDowell acknowledged that his group does not have the time to fully exploit the mass of data collected. There are many inter-relationships that might be studied, he said, but "we can only scratch the surface." Attempting to partially remedy this, HANES data tapes are made available to outside researchers for a small fee.

Summing up, HANES does perform a useful function in reporting on general nutritional status, but it does not fill the important gap in our knowledge about the nutritional status in all areas of the country, particularly among high-risk groups, nor does it report in a timely fashion on its basic nutrition findings or the relationships between nutrition and health findings. The CDC system does not meet these needs either.

### THE FOOD CONSUMPTION SURVEY

The other national nutrition survey, now being planned, is the Agriculture Department's Household Food Consumption Survey. In this survey, interviewers ask respondents detailed questions about their diets, recording data that not only permits analyzing eating habits but also estimates of quantities of food eaten, thereby permitting estimates of nutrients consumed.

The White House Conference recommended that these surveys be conducted at 5-year intervals, but the survey will not even be able to keep its 10-year schedule, partially because of politics. (A summary of the data to be reported and their expected uses appears as Appendix N.)

According to the original plan, the pilot survey for the next HFCS was to start in mid-1974 and then the basic survey was to get under way in January 1975. However, in July 1974, the Office of Management and Budget directed the Agricultural Research Service to conduct a study of alternative survey techniques. The contract for this exploratory study was signed in June 1975, and the consultant's findings were received early in 1976. The survey is expected to begin in April 1977.

OMB's reasons for wanting a delay in 1974 are reported by one official to be: budget considerations; doubt about the survey's methodology; and fear that the survey might produce discouraging data in the 1976 election year.

It is of interest to note here that the Department of Agriculture requested in June 1976, that the Agriculture Subcommittee of the Senate Appropriations Committee cut \$1.65 million that had been added by the House Agriculture Appropriations Subcommittee to the Department's \$2.85 million budget request for the HFCS in fiscal year 1977.

In supporting the additional appropriation, the House subcommittee's report said:

The data provided by a previous survey on food consumption and dietary levels in the United States is now 12 years old. Current data is urgently needed by schools, hospitals, prisons and similar institutions to determine dietary levels for their feeding programs. Such up-to-date information is also essential for those who are responsible for the determination of poverty guidelines and for the operation and administration of our food stamp, child nutrition and other food consumption programs.

The Agriculture Department requested that the \$1.65 million addition and several other House appropriations be eliminated "in view of other budget priorities . . ." The Senate Agriculture Subcommittee retained the amount however.

## SURVEY TECHNIQUE

The HFCS will sample 15,000 households, developing a 3-day dietary history for individuals and a 7-day history for households. In addition, there will be sub-samples of 5,000 elderly, 5,000 receiving AFDC and 5,000 "working poor" who may or may not be using food stamps. The total sample size will be 30,000 households and containing about 90,000 individuals.

The survey data is to be gathered in one year's time, with a quarter of the sample population sampled in each quarter of the year. The Nation will be divided into four regions and representative samples will be gathered in each region. The survey will employ about 100 interviewers and is expected to cost about \$5 million.

The HFCS, unlike HANES, is adequately funded to permit it to be timely, to gather information regionally and seasonally, and it will have a superior food consumption data gathering capacity, collecting 3-day and 1-week instead of 24-hour diet information as in HANES. As noted at the beginning of the section, however, the HFCS is seriously flawed.

In justification of the HFCS budget, the Subcommittee on Agriculture of the House Appropriations Committee was told in March 1975, by M. J. Pallansch, Acting Assistant Administrator, Marketing and Engineering Services, of the Agricultural Research Service, that:

Food consumption and dietary data are an essential element of the USDA's and other Federal research and educational programs in nutrition. These data are critical in identifying those groups of individuals who need more food or food of better nutritional quality.

Although the HFCS can tell what nutrients are being consumed and in this way can provide data on nutritional status, consumption data is only one half the picture. *Nutrition Assessment in Health Programs*, produced by the American Public Health Association under contract from HEW, points out:

Greatly limited food intake is obviously accompanied by sub-optimal nutrition status. However, slight differences in nutritional intake, or even apparent evidence of failure to meet "official" dietary recommendations, such as the National Academy of Science Food and Nutrition Board's Recommended Dietary Allowances (RDA), do not indicate the presence of malnutrition. There are, therefore, several reasons why dietary studies have their limitations. These include:

- Differences in nutritional requirements among individuals;
- So-called "conditioning" factors such as concurrent disease, genetic or enzyme defects which may interfere with or modify an individual's ingestion, absorption, storage, utilization, requirement, destruction or excretion of nutrients;
- The skill of the history-taker and the degree of cooperation and memory of the subject;
- Inadequacy of short-term studies that may not reflect total nutrient intake over longer periods.

Finally, it should be kept in mind that present knowledge of absolute nutritional requirements is rapidly evolving, that food tables are often incomplete and not necessarily accurate, and that additional laboratory and clinical investigations are in order before nutritional deficiency can be determined with confidence.

Since the HFCS will study only dietary patterns and will not involve clinical or laboratory tests it will not be able to adequately measure actual nutritional status in its subjects and therefore will not be as useful as it should be in evaluating and setting standards for Federal programs.

## DISCUSSION

Does the United States have an effective system of nutrition monitoring? The answer must be: No.

Before discussing what such a system might involve, it is necessary to make a distinction between different kinds of nutritional assessment. HEW describes periodic nutritional assessment, such as HANES and the HFCS as nutrition *surveys*. Continuing examination of nutritional status, such as that performed by the few States working with CDC is described as *surveillance*. An adequate system provides both for surveys and surveillance.

Surveys like the HANES and HFCS are intended to periodically provide general baseline data. HEW officials describe the CDC system as having the potential to meet the need for surveillance, continuing location-specific monitoring of nutritional status that would supply data on which to base action programs.

But, as we have seen, the general surveys are seriously deficient, and the CDC is operating in less than a dozen States and is only monitoring limited nutritional indicators in children. There is no surveillance of the adult population in this system.

In addition, experts have recommended that there be created a means of continuously monitoring nutrition status nationally, based on a variety of indicators, including food price changes and reports from third-party insurers.

The internal HEW report, mentioned in previous sections, entitled *What Should be the Department's Role in Nutrition and Diet Pertaining to Health?*, prepared in 1971, advocated a surveillance system that would "continuously collect, analyze and distribute nutritionally-related data now being obtained by all Federal nutrition programs" research and service projects, and by national surveys.

A follow-up memo to the report, written in May 1972, said:

The information collected by the National Center for Health Statistics, and accumulated during the course of the Ten-State Nutrition Survey, is exceedingly valuable in providing information on the nutritional status of selected segments of a broad cross-section of the U.S. population.

The HANES study is a specific time study, using a data collection system and sample design developed for only the one purpose. It is costly, but can be valuable as a major (and perhaps sole) means of establishing baseline data. However, neither the Ten-State Nutrition Survey nor the National Center for Health Statistics Survey constitute an operational surveillance system.

What is required is an operational system that makes use of many other sources of health information that can, if properly evaluated, and combined with data from the specific nutrition studies provide the needed continuing guidance for program planning and change. If properly established, most of the basic information is collected as part of other health systems.

Such a surveillance system should be engineered so that it is an acceptable stimulus to remedial action once the mechanism shows that remedies should be applied. What is needed is a system which covers the population, particularly the sub-population groups at particular risks, tests for the adequacy or inadequacy of nutritional status in relationship to the most critical components of human nutrition, identifies and characterizes the populations suffering from nutritional inadequacies which have genuine and significant implications for the health of individuals making up the population, and identified changes which result from the institution of remedial action.

The basic report envisioned a system that would produce monthly or bi-monthly reports on "the nutrition status of high-risk populations, incidence of related disease and socio-economic correlations . . .

early detection and warning of critical nutritional profiles would be provided for specific populations and geographic areas." The reports would be developed from a wide range of sources, including: random sampling of food production, processing and sales data; vital statistics from State health departments; data from third-party insurers and from hospitals and health clinics.

The need for short-term as well as long-term reporting of nutritional status was recognized also by the Select Committee's panel on Nutrition and Government.

The panel recommended that food purchase patterns in representative areas be monitored and changes reported on a month-to-month basis. For longer term surveillance, the panel recommended the establishment of local, State or regional Nutrition Centers with clinical, biochemical and dietary competence. Improved monitoring of nutrient composition of food and food safety is also needed, the panel said.

Based on an analysis of past and current nutrition assessment, and expert opinion, we find that an adequate system for nutrition monitoring should include:

1. Nutrition surveys conducted at at least 5-year intervals to provide general baseline data on the general population and special high-risk groups.
2. Continuous nutrition surveillance of high risk groups at the State level and a State capacity to sample its entire population periodically.
3. A continuous national monitoring, based not only on nutrition surveys and surveillance but on other indicators of nutritional health, that would provide reports on a monthly or bi-monthly basis.

#### A PLAN FOR NUTRITIONAL MONITORING

When Arnold Schaefer was director of the HEW Nutrition Program he suggested that USDA and HEW join forces in nutrition assessment, with HEW developing a nutritional health component for the HFCS.

Under this plan, the HFCS performs its currently assigned task plus the work being done now by HANES. This would meet the aforementioned monitoring requirement for base-line data on the general population. This arrangement would permit the combination of the best aspects of both surveys, the food consumption data of the HFCS, based on 3-day and 7-day estimates of food intake, and the physical and biomedical evaluation of HANES. It would mean that the HFCS, which might be renamed, would be able to measure not only food consumption but also its affect, allowing it to be used more reliably for setting standards for food assistance programs and for evaluating them.

In addition, it would permit basic nutritional health data to be gathered in a year's time, rather than over a 2½- or 3-year period and to be reported more promptly. It would not be necessary for the medical component to sample as large a population as the consumption component, perhaps 30,000 of the 90,000 planned for the HFCS. This would be a manageable size and approximate the sample currently studied by HANES.

With the need for general nutrition assessment being performed by the new combined survey, the needs of special groups could be exam-

ined by HANES II, a project that would, under current plans not get underway until 1980 at least. By narrowing the scope of HANES to cover certain groups, more specific testing could be used and there would be a greater opportunity for experimenting with various testing methodology. Current methodology is considered too complicated and expensive, and there is a need for research in this area.

The combined survey and the new HANES would meet the need for periodic examinations and should be conducted at no greater than 5-year intervals.

To meet the need for continuing surveillance of nutritional health, the CDC system should be expanded to cover all States. This would mean that over a period of no more than 5 years, each State would be given the capacity to continuously monitor in its clinics and hospitals the nutritional status of high risk populations, children and adult, as well as the capacity to do random sampling of the entire State population periodically, perhaps at 2- or 3-year intervals. This data would be evaluated at the State level and sent to CDC or another central point for analysis of national conditions.

The CDC system could make use of the new HFCS-HANES combined survey and the HANES special groups survey in studying local populations as well as adopting new testing techniques developed in the national surveys.

The plan just outlined provides for gathering of national, baseline data and continuous monitoring of special groups. A third component, needed to measure short-term changes in nutritional health on a national basis, would gather data from a variety of sources, food processors and retailers, hospitals, third-party insurers and the State surveillance system and publish monthly or bi-monthly reports. These would estimate changes in the potential for the population achieving adequate nutrition, changes in nutritional health, and local developments that are of national interest.

As will be discussed in the next chapter, thorough nutrition surveillance has been seen, at least as early as 1937, to be the basis for managing the food system to the optimal interest of health.

## RECOMMENDATIONS

1. That Congress enact legislation requiring HEW to work with USDA to develop a medical evaluation component to the Household Food Consumption Survey that would study physical and biochemical indicators of nutritional health and that this survey be required at 5-year intervals, starting in 1980.

2. That Congress authorize increased funding for the HANES survey to permit completion of all HANES II data-gathering and publication of final reports by 1978 and require the HANES study of high-risk populations to begin in 1978 and be conducted at 2-year intervals,

3. That Congress authorize \$1.9 million for the CDC surveillance program in fiscal year 1977, to permit expansion to cover 20 States; and that Congress direct HEW to devise a plan for the expansion of the surveillance system nationwide by 1980, with the capacity for continuous nutrition surveillance of high-risk groups of all ages as

well as the capacity to periodically sample entire State populations at a minimum of 5-year intervals.

5. That Congress require HEW and USDA to jointly determine which indicators can best be used to monitor nationally the nutritional health of the general population and special high-risk groups on a monthly or bi-monthly basis and that recommendations on establishing such a monitoring scheme be submitted by December 31, 1976. The indicators might include but would not be limited to: food prices; data from third-party insurers; data from State surveillance; food production, processing and retailing data and data from health clinics and hospitals.

6. That Congress require HEW to initiate studies aimed at improving techniques for physical and biochemical nutrition evaluation and make an annual report to Congress on progress.

7. That Congress require USDA to study food consumption survey techniques and adequacy of data on food composition, food fortification and food additives with recommendations being made to Congress by January, 1977, on action needed to ensure the recommended Household Food Consumption Survey of 1980 develops nutrient consumption data of the highest accuracy possible.

### CHAPTER III

## THE IMPORTANCE OF NUTRITIONAL HEALTH CONSIDERATIONS IN FOOD POLICYMAKING

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Every government has a responsibility to see that its population is as adequately nourished as possible. The nutritionist is in the best position to judge how far this responsibility is being met, and it is only logical that he should also participate in the development of measures to improve the existing situation.

—Manual on Food and Nutrition Policy,  
Food and Agriculture Organization of the United Nations

In January 1973, President Nixon, confronted by a world food shortage that was driving up domestic food prices and bringing starvation overseas, created a Committee on Food in the Cost of Living Council. The role of the Committee, which temporarily reduced the power of the Secretary of Agriculture over food policy, was to balance the interests of consumers with those of producers.

The Committee on Food and its successors have been composed of key Cabinet members and Presidential counselors who have direct interests in the management of the food supply, with one exception: The Secretary of Health, Education, and Welfare.

Although HEW administers the Nation's public assistance program, which is greatly affected by food prices, maternal and child health and general nutrition services in public health clinics, the Nation's primary nutritional health survey and surveillance system, and invests more in human nutrition research than any other Agency, the Secretary of HEW has not been appointed to the Committee on Food, the President's Committee on Food, which superseded it in 1974, or the current food policy coordinating body, the Agricultural Policy Committee, created in March 1976.

This failure is symbolic of the continuing failure of the Nixon and Ford Administrations to make the connection between nutritional health and food policy. It is a failure to recognize that nutritional health is the proper goal of any food policy and that as such, it must be considered in any deliberations on food policy.

Before discussing the reasons for this omission, it is important to briefly review the expansion of the role of nutritional health considerations in U.S. food policy during the first half of this century.

### THE IMPACT OF WORLD WAR I

The first Federal attempt to manage the Nation's food economy came as the United States entered World War I. Food shortages were driving up food prices, and Congress authorized the appointment of a Food Administrator to regulate the food marketplace and expand available food supplies.

A key tool in building up food stocks was a conservation program which relied heavily on the education of housewives in the use of alternative menus that would conserve vital food stuffs such as meat, wheat, and sugar.

This program flowed naturally from the growth of nutrition knowledge that began in the early 1900's and the resulting new awareness of the relationship of diet to health.

In 1911, scientists had discovered the relationship of amino acids to health, and the following year, the function of vitamins began to be understood. Table 4, from *The Role of the Federal Government in Human Nutrition Research*, a report by the Congressional Research Service, shows the breakthroughs in human nutrition research that began in the early 1900's.

TABLE 4.—MILESTONES AND CONCEPTUAL DEVELOPMENTS IN THE HISTORY OF HUMAN NUTRITION RESEARCH<sup>1</sup>

Milestone	Date	Period	Conceptual developments
Menghini proved the presence of iron in blood by drying it and removing the iron with a magnet.	1747	1700's-----	Lavoisier "Father of Nutrition" was responsible for the discovery of oxidation process and the development of calorimetry.
James Lind showed that scurvy (the vitamin C-deficiency disease) could be cured by giving citrus fruits.	1753	-----	Discovery of digestive processes.
Magendie demonstrated for the 1st time that life could not be supported without a source of nitrogen in the food.	1816	1800's-----	Nutrition knowledge was dominated by William Prout's classification of the calorie nutrients as "the albuminours, the oily, and the saccherine."
Mulden introduced the word "protein"---	1833	-----	
Eijkman produced, for the 1st time in history, a disease of dietary origin when he induced beriberi in fowl by removing the bran from their rice diet.	1897	1900's-----	Causative agents of disease could be absence of a factor, rather than presence of etiological agent.
Osborne and Mendel recognized that certain amino acids (lysine and tryptophane) were indispensable, and some proteins were incomplete because they lack essential amino acids.	1911	-----	Identification of different amino acids.
Hopkins, a biochemist who had isolated the amino acid tryptophane in 1906, showed that unknown nutrients in natural foods were essential to life.	1912	-----	
Casimir Funk proposed the term "vitamines" for certain indispensable food factors.	1912	-----	
McCollum & Kennedy reported the finding of a water-soluble B vitamin as the antiberiberi factor (thiamin, vitamin B-1).	1916	-----	
Mellanby presented the 1st data on the role of a fat-soluble "accessory factor" in the prevention of rickets (vitamin D).	1919	1915-30-----	Identification of fats and their constituent fatty acids, some of which are essential components of the diet.
McCollum isolated the 2d fat-soluble vitamin from codliver oil (the 1st was vitamin A) and called it vitamin D.	1922	-----	Minerals and trace elements shown to be essential to the diet.
Goldberger demonstrated that pellagra could be cured by a dietary factor in the nonprotein segment of yeast extract (later shown to be niacin, vitamin B-3).	1926	-----	
Isolation and later synthesis of ascorbic acid—vitamin C.	1928-32	-----	
Burr and Burr identified linoleic acid as the essential fatty acid.	1929	-----	
Kuhn, the chemist responsible for isolating riboflavin, vitamin B-2, synthesized this vitamin.	1935		

See footnote at end of table.

TABLE 4.—MILESTONES AND CONCEPTUAL DEVELOPMENTS IN THE HISTORY OF HUMAN NUTRITION RESEARCH<sup>1</sup>—Continued

Milestone	Date	Period	Conceptual developments
Elvehjem, Madden, Strong, and Wooding isolated the "antiblack tongue factor" from liver and identified it as niacinamide (vitamin B-3).	1938	-----	
		1940's-----	Realization that body constituents (carbohydrates, fat, protein, minerals, vitamins) are in dynamic state and are constantly being replaced.
		1940's and 1950's---	Organic chemists, biochemists, and nutritionists attempted to determine the "mechanism of action" of vitamins and minerals. Micronutrients function biologically as components of enzyme systems involved in metabolism.
The antipernicious anemia vitamin (later identified as B-12) was isolated in England and United States simultaneously.	1948	-----	
Keys demonstrated the effects of semi-starvation on man's mental state.	1950	-----	
S. Lepkovsky demonstrated that the central nervous system plays a role in hunger and satiety.	1959	-----	
H. A. Barker discovered the function of vitamin B-12 as a coenzyme.	1959	-----	
		1960's-1970's: New frontiers in nutrition.	(1) Exact relationship of nutrients in the onset and prevention of disease (e.g. cardiovascular disease). (2) Role of trace elements in nutrition. (3) Absorption and utilization of dietary components at the cellular level. (4) Psycho-physiological control of food intake. (5) Improvement in nutrition education to enable man to become self-directed in his food choices.

<sup>1</sup> Table prepared by Drs. Mitchell, Mehlman, and McLaughlin (DHEW) Jan. 27, 1975.

Sources: (1) "Milestones in Nutrition," Goldblith & Joslyn. (2) E. Neige Todhunter, Ph.D., "The Evolution of Nutrition Concepts," JADA, vol. 46, No. 2, February 1965. (3) "Scope Manual on Nutrition," Latham, McGandy, McCann and Stare. (4) Nutrition Today, September-October 1974.

These discoveries, coming before, during and after the war, brought special significance to the wartime experience. The European food shortages had, in effect, resulted in a massive control experiment in which whole populations suffered varying degrees of malnutrition. The health effects of wartime disaster, viewed in light of the findings in nutritional science, brought a new awareness of the role of nutrition in public health. *Nutrition, Final Report of the Mixed Committee of the League of Nations, The Relation of Nutrition to Health, Agriculture and Economic Policy*, published in 1937, said:

The general death rate, and especially the death rate from tuberculosis—a still more sensitive index of nutrition conditions—rose in all countries (belligerent and others) where food restrictions were imposed on the population. The greatest rise occurred when and where the restrictions were most severe. The food producer on the land suffered less than the city dweller, because he could always keep some foodstuffs for his own use. On the other hand, the inmates of prisons, asylums, etc., suffered most because they had no possibility of supplementing the official rations.

In Germany, while the rise in the tuberculosis death rate from 1914 to 1918 was but 23 percent in the agricultural State of Bavaria, it was as much as 65 percent in Berlin. In Roubaix and Tourcoing, two industrial towns of occupied Northern France, the rates rose by 101 percent and 183 percent respectively.

Discussing the impact of improved nutrition on the health of vulnerable groups, the report cited experiments in London showing rapid gain in children's stature and weight resulting from addition of school meals "or even of a glass of milk daily" to their regular diets.

Similar results had been found in Japan, New Zealand, Norway, Scotland, the United States and other nations, the report said. In 1936, the League had published the *Report on the Physiological Bases of Nutrition*, which outlined principles of nutrition and specified nutritional requirements for individuals at various stages of development.

The effect of new nutrition knowledge and the wartime experience was to place a new kind of obligation on the food economy and the general economy, the demand for an adequate diet; that is, a diet containing all the nutritional components to support and advance health.

Nutritional health was recognized by the Mixed Committee of the League of Nations as an important aspect of food policy and economic policy as it related to food. The report of the Mixed Committee recommended:

The advice of nutrition and social-economic experts should, in our opinion, be sought whenever a question of agricultural or commercial policy arises.

### NEW INFLUENCE FOR NUTRITION

The Federal Government sponsored domestic food aid programs during the Depression, including the first food stamp program. When the United States entered World War II, the rapidly expanding body of nutrition knowledge was martialed not only to guide military and civilian food consumption but to guide food production as well. (The larger role for nutrition is outlined in the recommendations of the National Nutrition Conference for Defense, the first national nutrition conference, convened in May 1941 Appendix O.) In *The Farmer in the Second World War*, Walter Wilcox reports:

Dr. Louise Stanley, chief of the Bureau of Home Economics (of the Department of Agriculture), in her annual report for 1942, said: "In setting goals for agriculture in the past year, the Department considered nutritional needs as well as market requirements. Food specialists in the Bureau cooperated with commodity committees in working on these problems." This statement highlights another landmark in agricultural activities. Not that the idea of better nutrition was a new departure. Throughout the Thirties scientific investigators accumulated a large body of evidence indicating widespread malnutrition. Home economists were making progress in educational programs regarding healthful diets. Agricultural economists and administrators were aware of the 'hidden hunger' problem in the midst of agricultural surpluses. The food stamp program was an experiment designed as one method of dealing with this problem. But it was only when production goals were set for the first time in the fall of 1941 that the relative nutritive value of different products had a distinct influence on the crop and livestock goals set for the following year.

The War Food Administration would have probably not undertaken a controversial program in 1943 to increase milk production, requiring payments to producers of about half a billion dollars a year according to Wilcox, "except for the constant prodding by those interested in seeing people get more total milk solids to improve their diets." And, he said, "The wide movement for improved nutrition was also a factor in the rapid expansion of milk dehydration facilities during the war."

### BRITISH BREAD

Another example of the wartime impact of nutritional health concerns on food policy is the change in the manufacture of bread in

England in the early 1940's. As Ross Hall reports in *Food for Nought*, the British customarily ground all the wheat germ and bran out of their wheat flour to produce white flour, termed 70 percent extraction flour. (This meant the flour was 70 percent of the dry weight of the original wheat. Whole wheat flour is 100 percent extraction.) Early in the war, the Ministry of Food proposed adding vitamin B<sub>1</sub> to white flour to restore some of the nutrient content lost during grinding. Some nutritionists argued, however, that whole wheat flour should be required. Millers fought this, says Hall, because they "were not the least bit interested in changing their ways, primarily because of their large investments in machinery and marketing methods."

After an experiment involving rats, in which whole wheat flour proved preferable to enrichment, the Ministry suggested millers grind to 85 percent extraction, but permitted them to grind to 70 percent and then add enough bran to restore the flour to the 85 percent level. Controversy continued until 1942, when the government finally ordered 85 percent extraction. Hall suggests this order resulted not from pressure by nutritionists but because of reduced shipping to England. After the war, 70 percent extraction was again the rule.

#### NEW GUIDE FOR PRODUCTION

A memorandum prepared by the United States for presentation to the United Nations Conference on Food and Agriculture in 1943, describes the new perspective that nutrition science was bringing to food and agriculture policy:

Most of the pre-war national programs for redirecting farm production were geared to economic policies aimed at improving prices of individual commodities, strengthening the nation's export position and providing for national self-sufficiency. Much less attention was given to the need for better diets. The special wartime food programs provide actual experience in guiding production in the direction of maximum contribution to food needs. Both provide useful experience for planning and achieving production programs specifically concerned with nutritional needs.

The goals, or objectives for national food production, should be determined on the basis both of the nutritional needs to be served and of the capacity of the nation for economical food production.

Although nutritional health concerns had a new impact in the United States during the war, nowhere are the basic connections between food and economic and nutritional health policies more apparent than in England. A report by A. H. J. Baines and D. F. Hollingsworth, *Diets of Working Class Families with Children Before and After the Second World War*, in the *Nutrition Abstracts and Review* (1963) outlines the fundamental changes in England which led to an actual improvement in nutritional health at a time when imported food tonnage was cut in half and the economy was under great stress.

There were many reasons for this (improvement of nutritional health): attainment of full employment, reduction of class disparity, and deliberate direction of food policy towards improvement of the diet of the nutritionally vulnerable groups. One result of food control was perhaps not wholly foreseen. To take one's rations in full was a legal right which became almost a duty. Hence rationing first increased and then maintained the consumption of several basic foods in the larger and poorer families, while restraining it in others. Those constraints ceased to operate in 1954, but much of the gain was permanent.

By the end of the war the national diet provided more of all nutrients estimated, except fat and vitamin A, than that before the war. The greatest changes were increases in supplies of calcium, brought about by increased supplies of liquid and processed milk and by addition of chalk to flour, and in supplies of vitamins of the B complex, caused mainly by increase of the extraction rate of flour. The fortification of all domestic margarine with vitamins A and D (some brands had been fortified as early as 1927) helped to counteract reduction of supplies of butter and eggs. Other important measures were provision of cod liver oil and orange juice as well as milk at reduced price for expectant mothers and young children, expansion of the school meals service and encouragement of communal meals for industrial and other workers.

Thus, by the end of World War II, there was ample experience with the practical application of nutritional health concerns to food and economic policy and an appreciation of the benefits of this approach. However, as food supplies increased after the war, Government intervention in the food and the economy was reduced. Management of the food system was returned to food producers, processors and retailers. It is significant that one of President Truman's first acts upon taking office was to restore control of food policy to the Department of Agriculture.

### PROBLEMS OF PLENTY

The 1950's and 1960's brought the United States a measure of food security it had never before known. Grain stockpiles rose steadily from a level of 12.4 million tons in 1948 to 115.7 million tons in 1961, in spite of drought years in the mid-1950's. Stocks then declined, rose and fell, reaching a still relatively plentiful level of 68.6 million tons in 1972, prior to the Russian grain sales. Consequently, with the exception of the Korean War period, consumer food prices remained relatively stable from 1949 to 1972, in a few years actually declining. (The Russian grain sales and world production shortfalls pushed U.S. grain stocks down to 23.4 million tons in 1975, the lowest since 1948. Stocks rose to 32.7 million tons in 1976.)

With such food surpluses, there was limited, if any, conflict among the competing demands on the food system. There was ample food for domestic and international consumers. There was no need to conserve food resources. On the contrary, to support farm income it became essential to find as many uses for food as possible. One result was the increasing use of corn and other grain to feed livestock. There was no pressure to maximize the nutritional effectiveness of the food supply.

Coming after 20 years of relative plenty, the shortfall in world food production in 1972 created an entirely new situation for agricultural economists and economic planners in general. Food policy had been oriented to dealing with surplus. The United States had, over the last 20 years, relatively good growing weather. It was almost inconceivable that the economy would be hounded by continuing shortage.

Consequently, as the first shocks of the shortage began to be felt in skyrocketing domestic food prices, agricultural and economic policy experts were caught without conceptual or organizational systems with which to cope with the situation. The period of ample food supplies had effectively wiped out the lessons of earlier wartime shortages. The Administration experienced a slow, acrimonious introduction of general economic, then foreign policy considerations into food policy, an area that had been the preserve of the Secretary of Agriculture.

Unfortunately, the Administration's food policy would be guided almost solely by considerations of price and domestic and international political advantage.

### RELEARNING FOOD POLICY COORDINATION

Although domestic food prices began to rise sharply in 1972, President Nixon withheld action to expand food production until 1973, not wanting to alienate farmers during an election year. However, on January 11, 1973, with the beginning of Phase III of the Economic Stabilization Program, he shifted food policy control away from the Agriculture Secretary through the appointment of the Committee on Food of the Cost of Living Council. This Committee was composed of: The Secretary of the Treasury (chairman); Secretary of Agriculture; Chairman of the Council of Economic Advisors; Director of the Office of Management and Budget; and Director of the Cost of Living Council.

Economists, worried about the impact of rising domestic food prices on inflation, were joined in food policy discussions by the Secretary of State as the soybean embargo in 1973 and the generally reduced stocks available for food aid began to jeopardize relations with nations held important to U.S. interests overseas. When the Cost of Living Council was abolished on June 19, 1974 by Executive Order (Appendix P), the food policy coordinating mechanism was retained as the President's Committee on Food, composed of: The Secretaries of Agriculture, State, Treasury; the Director of OMB; the chairman of the Council of Economic Advisors and the Executive Director of the Council on International Economic Policy.

At the same time, Kenneth Rush, Counsellor to the President on Economic Policy, created a Food Deputies Group (Appendix Q) which would meet bi-weekly, acting to handle other than the most important food policy issues and further strengthening the coordinating principle by developing background information on important food issues.

The Executive Order and the Rush memo created the basic decision-making structure used in 1974 and 1975 to delay sales of grain to the Soviet Union to guard against radical domestic food price increases.

But as farm prices began to decline in early 1976 and grain farmers complained of lost sales because of government intervention in the market, President Ford, campaigning in the Illinois primary, announced in March the creation of an Agricultural Policy Committee designed to take over the work of coordinating food policy and headed by Secretary Butz (Appendix R). By returning the Department of Agriculture to a predominant role in food policymaking, the Administration gave a signal that it was no longer fearful of shortages.

The new committee is composed of the Secretaries of Agriculture, State, Treasury and Commerce and various economic and other advisors. Also included is the Special Assistant for Consumer Affairs. But the Secretary of Health, Education, and Welfare, as noted before, has been excluded from this committee as well as the previous coordinating committees.

This is not surprising. General economists and agricultural economists in the Administration have viewed nutritional health concerns as irrelevant to food policy.

### DECLINE IN INFLUENCE

One factor in this view may be the failure of human nutrition research to play the leadership role that it did during the 1920's, 1930's and 1940's in laying a foundation for food policy.

In the first half of the century, human nutrition research had been concerned primarily with dietary deficiencies, identification of those elements needed for good health. This research found favor with the medical profession since, in a sense, food became a curative factor which could be administered to banish visible diseases.

However, in the 1950's and 1960's, the nutritional problems of the Nation began to shift from those of deficiency to those of excess. Most nutritional problems, with the exception of obesity, became invisible, having cumulative effects, not prone to quick diagnosis. For nutrition researchers, the cumulative nutrition diseases present the prospect of long, expensive studies that may not have much payoff in knowledge or professional status.

The article, *What Has Happened to Nutrition?*, by Howard A. Schneider, first published in 1950, appearing in *Life and Disease*, provides insight into this new era for nutrition research. Noting that the last important vitamin discovery, that of vitamin B<sub>12</sub>, was made in 1947, Dr. Schneider said:

"... the idea seems to be gaining ground that nutrition has become a theoretically closed science. This is not to say that activity has stopped. Instead, as at the end of the nineteenth century, analysts and analysis and a lulling business with a respectable 'quantitation' have reassumed the dominant position. Easily discernible is a preoccupation with 'levels' and 'inter-relationships.' The lists are closed; the items are known; the exciting days of the 1930's and early 1940's are over; nutrition is a 'mature' science (whatever that is!)"

A consequence of this period of uncertainty and lack of direction in human nutrition research has been a low level of Federal funding. The most comprehensive, usable report on this spending, *The Role of the Federal Government in Human Nutrition Research*, prepared by the Congressional Research Service, shows that only \$73 million was spent in Fiscal 1975: about \$60 million went to HEW; \$10 million went to USDA; \$2.6 million to DOD and \$400,000 to the Veterans Administration. The report also found a general lack of coordination among the agencies.

This condition of neglect may be due not only to the lack of medical or pure research interest. The food industry has only recently been concerned about nutrition research and then primarily as it relates to nutrition labeling. This attitude has been reflected in the low interest in nutrition research by the Department of Agriculture. In addition, there are indications that not only do the agencies see little positive political gain in human nutrition research but that there is some apprehension that this research might develop information which threatens the corruption of some popular food items.

All these factors contribute then to the inability of nutrition experts to command the respect they once did.

## THE SOCIAL FACTOR

But a greater factor in the exclusion of nutritional health concerns from food policy may be the history of nutrition experts supporting a variety of programs and activities which contradict Administration policies. Introduction of nutritional health concerns tend to expand the consumer interest beyond issues of price or political advantage into areas of social or humanitarian responsibility. These are areas that may require massive spending and/or prolonged governmental involvement in the marketplace on behalf of the consumer.

The Nixon Administration's understanding and fear of the implications of nutritional health considerations to its food and general economic policies were developed early.

## THE NUTRITION THREAT

In 1967 and 1968, malnutrition was discovered in the United States among groups who had never benefited from the wartime boom, people who had essentially remained in the Depression. The evidence, provided by the Citizens Board of Inquiry into Hunger and Malnutrition in the United States and Congressional investigations, was primarily episodic, however. As noted in Chapter II, public shock over hunger in the midst of food surpluses resulted in Congress' commissioning of the Department of Health, Education, and Welfare to do the first comprehensive nutritional health survey in the Nation's history, the Ten-State Survey. The preliminary findings of the Ten-State Survey, presented in January 1969, to the newly created Select Committee on Nutrition and Human Needs, showed that malnutrition was widespread and directly related to poverty.

These findings were politically explosive. They not only called into question the functioning of the food marketplace but the basic tenets of an economic system in which a significant portion of the people could remain in permanent poverty. Of more immediate short-run political concern, the findings supported demands for massive Federal spending to improve the diets of millions.

The White House Conference on Food, Nutrition and Health, called by President Nixon in 1969 in response to the reaction over domestic hunger, advocated expansion of the food stamp program and school lunch and other direct food assistance programs. The Conference recommendations also included support of a guaranteed minimum income at a level higher than that desired by the Nixon Administration. Nutrition experts, led to an analysis of general food policy and economic policy by their concern for nutritional health, placed themselves in direct conflict with the Nixon Administration. In *The Politics of a Guaranteed Income*, Daniel P. Moynihan, an architect of the Administration's guaranteed income proposal, says:

The mood of the (White House) conference was hostile to the Administration. Here NWRO (National Welfare Rights Organization) raised the standard of "\$5,500 or Fight," and found in Senator Eugene J. McCarthy a sympathizer and sponsor.

The Administration was opposed to massive Federal spending for the poor, and it was opposed to anything that would challenge the

normal functioning of the marketplace, the status-quo of profit distribution. Among its first steps to counter-act the challenge was the dismantling of the Ten-State Survey, perhaps the first major advance in human nutrition research that had been taken since the series of discoveries of vitamins.

It is difficult to overstate the importance of the Administration's action. Since as early as 1937, when the Mixed Committee of the League of Nations made its report, it had been understood that a food policy would operate most effectively when based on the best possible information of the nutritional health status of the population. The Mixed Committee urged that national nutrition organizations "ascertain the prevailing food consumption habits and nutritional status of all sections of the population."

In 1943, the United Nations Conference on Food and Agriculture recommended that governments establish "national nutrition organizations, if such do not now exist, entrusted with the responsibility of ascertaining food consumption habits and the nutritional status of different sections of the population . . ."

In 1969, the White House Conference recommended improved nutrition monitoring, and *Manual on Food and Nutrition Policy*, published by the Food and Agriculture Organization of the United Nations in 1969 says:

Before policies can be intelligently formulated it is essential to analyse the existing situation: only in this way can problems be identified and priorities for food and nutrition programs determined.

In 1974, the National Nutrition Consortium, a group representing the major U.S. professional organizations concerned with nutrition, included in its recommendations to the Select Committee's National Nutrition Policy hearings a request for improved nutritional surveillance.

Surveys of nutritional health have broad application to food policy in other countries, as is apparent from a report on nutritional surveillance in Czechoslovakia, appearing in *Nutrition Problems in a Changing World* (1973), which said:

The results (of the survey) are used also in other, non-medical fields, for example in agriculture, food processing and foreign trade. They also play a part in the nutrition and price policy as well as in health education.

It became apparent to the Nixon Administration that the creation of a truly effective nutrition surveillance system would bring pressure to aid the poor and to intervene in the commercial food sector. In addition, by killing the Ten-State Survey and substituting the inadequate Health and Nutrition Examination Survey, described in the previous chapter, the Administration eliminated any means of being held accountable for the nutritional health consequences of its food policy.

With regard to the latter point, during the period of radical food price increases in 1973 and 1974, Department of Agriculture figures show a decline in the consumption of animal products, an increase in crop products and a net decline in food consumption. What is the impact of this change on nutritional health? What is the impact of the recent record high unemployment on nutritional health? Assumptions can be made, but the United States has no way of making accurate appraisals.

Given this history, it is not surprising that the Department of Agriculture asked the Agriculture Subcommittee of the Senate Appropriations Committee in June 1976, to drop the \$1.6 million that the House had added to improve the Department's Household Food Consumption Survey. Nor is it surprising that the Office of Management and Budget delayed the HFCS survey to prevent it reporting findings during an election year and also declined to approve funds to expand the nutrition surveillance program of the Center for Disease Control.

After the dissolution of the Ten-State Survey, a few officials within HEW continued to attempt to win power for nutritional health considerations. But the following history of their activities shows they continued to be viewed as a threat.

### STRUGGLE TO BE HEARD

Dr. Nathan Smith, a professor of pediatrics at the University of Washington who had participated in the Ten-State, was brought to HEW in the summer of 1970 as a special assistant to the Secretary, first Robert Finch, then Elliot Richardson, responsible for devising a new nutrition program. Dr. Smith had no budget and no control over any program. It is possible that he was brought in to allow the Department to claim an interest in nutrition and cover the dismantling of the Ten-State Survey, which nearly coincided with Dr. Smith's appointment.

Dr. Smith presented a proposal to Secretary Richardson which included an initiative in surveillance of high-rise groups. It was politely received and politely rejected. Dr. Smith left after 10 months. He had announced when he arrived that he would stay only a year, and this may have limited his effectiveness. An official familiar with the period said there was "not enough steam up, enough interest."

No trace of Dr. Smith's proposal could be found by HEW officials asked to locate it in the preparation of this report.

Shortly after the White House Conference, a small group of HEW officials began meeting informally to consider what direction the Department should take in nutrition. In June 1971, the group, headed by Dr. Ogden C. Johnson, then director of the Division of Nutrition in the Food and Drug Administration, was asked to "undertake a study of the role of the Department in nutrition and diet as related to health." This was to be used in Department planning for the period 1973-77.

In September 1971, the group produced a report, quoted several times earlier in this report, titled *What Should be the Department's Role in Nutrition and Diet Pertaining to Health?* (Appendix D). The report is the most thorough examination of nutrition problems and possible solutions produced by HEW since then.

Among the needs cited in the report were:

1. Develop a nutrition surveillance system. ("Most of the alternatives proposed later in this report will prove effective only if a nutrition surveillance system can be organized.")

2. Develop a Departmental policy on nutrition and health. ("It would be advantageous to have a stated nutrition health policy that could be used not only within the Department, but would also serve to guide other Federal and State agencies in their consideration of programs that have direct or indirect influence on the nutritional health of individuals and population groups.")

3. Establish a nutrition coordinating committee within the Department. ("The committee . . . feels that the fragmentation of effort, in part due to the lack of a coordinating group, has led to duplication, and loss of awareness by program staffs of related actions in nutrition and health.")

The report was circulated in the department, but no action was taken. As noted earlier in this report, most conditions described by the Johnson committee in 1971 exist today. The report was "put aside" said a person familiar with its work, because there was no interest in the upper ranks. As an informal, internal document, he said, it could be easily ignored.

The next attempt to organize nutritional health activities within HEW seems to have been started by chance. Secretary Richardson read an article on the Op-Ed page of the June 14, 1972 *New York Times*, written by Henry J. Heinz 2nd, chairman of the H. J. Heinz Company. Entitled *Nutrition Illiteracy*, it began:

We are a nation of nutritional illiterates. Despite a wealth of scientific knowledge of nutrition, too many of us do not know what a balanced diet is, and are ignorant of the essential nutrients we need and the foods that contain them. We have an abundant food supply, yet our eating habits are deteriorating. And it is not just the poor who are affected, though lower-income families undoubtedly fare less well nutritionally than the average.

Mr. Heinz concluded:

Nutrition education must become a priority concern of state and local governments and all schools. The food and beverage industries should support this effort as well as follow policies of scrupulous accuracy in advertising and labeling. In addition, they can contribute to better nutrition by following sound principles of nutrition in the formulation of improved foods.

A memo (Appendix S) was then circulated to the Assistant Secretaries for Planning and Evaluation, Legislation and Education by Richardson's assistant executive secretary, saying that the Secretary had read the article and had asked (in pen on the margin of the article):

*"Is this something we should consider?"*

The response from the Assistant Secretary for Planning and Evaluation (Appendix T) contained a suggestion that there be established a nutrition coordinating committee within the Department, a suggestion based in part at least on familiarity by a staff member with the earlier proposals of the Johnson panel. The suggestion was approved by Richardson (Appendix U) who wrote: "Let's do it," on the margin of the memo from Planning. Another memo from Planning (Appendix V) suggested that the Assistant Secretary for Health be made responsible for the committee's work, and the Secretary approved this suggestion in a memo dated October 24, 1972 (Appendix W). A formal charter setting up the committee for a two-year period was signed in April 1973 (Appendix X).

The annual report of the coordinating committee for fiscal year 1974 (Appendix Y) shows that its first year of work involved primarily the gathering of information on nutrition activities within the department and the drafting of a nutrition policy statement (Appendix Z).

At this point, the worldwide shortfall in food production and massive Russian grain sales of 1972 and 1973 forced nutritional health activists to expand their concerns into the realm of agricultural policy. The 1969 White House Conference recommendations, made in a time of

food surplus, suggested a fine tuning of the agricultural system, but did not pose any fundamental challenge to the traditional managers of the food economy. But by 1973, the unexpected food shortages were prompting, as shortages had before, greater interest in government intervention into food policy on behalf of the consumer.

The HEW policy statement by Dr. Johnson, who was appointed chairman of the coordinating committee in July 1973, staked out a claim for nutritional health in agricultural as well as economic policy.

In capital letters, the policy statement proclaimed:

**"ALL CITIZENS SHALL HAVE ACCESS TO AN ADEQUATE AND SAFE SUPPLY OF FOOD AND ABILITY TO IDENTIFY, SELECT AND PREPARE AN OPTIMAL DIET, IRRESPECTIVE OF SOCIAL OR ECONOMIC STATUS."**

The statement then goes on to say, in the section on food supply:

The production and processing of food must be given the highest priority by the government as well as by the private sector. Those agencies responsible for food must constantly review the supply of food, its safety and its cost, to assure that food adequate quality and quantity is available to meet nutrition needs.

Furthermore, the draft said, to assure adequate diets, HEW should be involved in "provision of financial resources or in some cases, food resources." And it said:

The Department should assist in eliminating inequities which penalize many families in achieving good nutrition, such as recognizing the higher cost of living in some geographic areas and the variations often found in wages, costs of food and quality and quantity of food markets.

In the area of nutritional surveillance, it said in part:

Those segments of the population whose diet is inadequate, excessive, or inappropriate for their health status need to be identified in order to better target program funds and services to their needs.

The policy statement was not adopted. There were a variety of reasons, not the least of them the change in personnel at various levels. "It was a little hard to get any direction" from the Secretary, said a former official, in part because the Secretaries changed, as did their representatives for dealing with the committee.

But another key factor in the rejection of the policy statement was its assumption of responsibility in areas, such as food assistance and agriculture policy, that had traditionally been the preserve of the Department of Agriculture or economic policy makers.

Dr. Johnson left HEW in early 1974, and Dr. Myron Mehlman became the committee's chairman. The work of the committee continued in an irregular fashion, with the drafting of a policy statement still one of its principal tasks. A version drafted in November 1974 (Appendix AA) follows the general principles of the Johnson draft but withdraws from direct conflict with the Department of Agriculture in food policy, saying:

The Department of Health, Education and Welfare acknowledges the fact that authorities in respect to many aspects of the food supply are shared with the United States Department of Agriculture, the Environmental Protection Agency, and other Federal agencies and State and local governments. Since USDA has the Federal responsibility for the supply of food, then DHEW adopts the role of advocate of the "demand" side of the equation, demand as to sufficiency, variety, quality and reasonableness of costs.

The draft did, however, take a strong position for economic equity as a prerequisite to equal access to adequate diets, endorsing "the most sound and equitable means of income maintenance," and in its last section on international nutrition problems it ventured back into food policy, saying:

. . . a given weight of certain grains meets the protein needs of more people than an equivalent weight of animal protein. Per se, this observation does not necessarily dictate a major shift in dietary practices by Americans to conserve grain for the less sufficient nations, although this might be a compassionate act. But, if it were demonstrated that such a shift would be actually beneficial to American health, then evaluation of such a move would be worthy of serious consideration.

Early in 1975, the job of drafting a statement for the Department was taken over by officials under the Assistant Secretary for Health but not members of the committee. One of them was Dr. Charles U. Lowe, Special Assistant to the Assistant Secretary for Health, Office of Child Health Affairs, a member of the Johnson panel in 1971.

The new statement, *Health Aspects of Nutrition* (Appendix BB), was adopted in February 1975 as the Department's position on nutrition. The statement is similar in tone to the Johnson draft statement, establishing in HEW the responsibility for examining policies of other Departments insofar as they relate to nutritional health.

The statement says: "A high priority is to ensure that every American has access to an adequate supply of wholesome food which provides all nutrients known to be essential to maintain and improve health and vitality." And it says:

Special attention shall be directed at the relationship between sound nutrition, the availability and cost of food, and policies of the Department of Agriculture.

In its discussion of biomedical research, the statement says:

Research shall also be directed towards helping to resolve the controversy concerning true human protein needs and the feasibility of relying more heavily on grain as a source of protein. This not only provides an opportunity for possible improvement in health, but also offers an opportunity for more equitable and improved grain utilization in the face of increasing world demand for food.

The statement also calls for thorough nutritional assessment:

This (nutritional monitoring) shall be accomplished through general surveillance activities at the national level, and through local surveys of high-risk populations. Such monitoring shall include the identification and full assessment of the extent and location of nutritional problems according to region, income, food availability, ethnicity, and sex . . .

Taken as a whole, the statement reflects a desire expressed by several officials working for Assistant Secretary Cooper to expand HEW's role in food policy decision-making as it relates to health, particularly into areas that have traditionally been the province of the Department of Agriculture. HEW officials want the department to have a say in grain sale agreements since massive sales, such as those to the Soviet Union, materially affect food prices in the United States and consequently reduce the value of benefits to low-income people. HEW also wants to be heard on the health implications of agricultural practices. Dr. Cooper sent a letter to the National Academy of Sciences in 1975, for example, asking that the following questions be included for consideration in a food policy study being conducted at the request of President Ford.

—What are the advantages and maximum health benefits of cereal grains—over animal products—as a dominant source of protein and calories in the human diet? What are the implications of efforts to grass-fed rather than grain-fed cattle for human consumption? What is the time-frame for shifting to predominantly grass-fed cattle in this country; what would be the environmental impact and socio-economic consequence of such a change? Is there a potential role for the Federal Government in providing incentives to facilitate a major switch in the way we allocate grain and raise livestock?

—What are the mechanisms for change and by what methods can we supplement improved educational activities to produce desired alterations in the diet and eating habits of Americans? Must we look forward to the kinds of dismal results that we have experienced—despite nation-wide educational efforts—in our current anti-smoking campaign?”

These and other questions in the memo have not been included in the study, according to an HEW official, but they are an indication that some officials in the department have a sense of the role for health in food policy envisioned by the White House Conference and the Johnson panel in 1971.

There is, however, no organizational mechanism in HEW for realizing this vision. The coordinating committee, plagued by lack of budget, changing personnel and bureaucratic infighting, did not produce work satisfactory to Dr. Cooper, and he did not renew its charter when it expired in April 1975 (Appendix CC). Currently there is no department-wide nutrition coordinating body. One option that had been under consideration is an Office of Nutrition that would provide a focus and full-time activity in coordinating HEW nutrition policy. This would cost money, but even if the investment were made, it is questionable whether nutritional health considerations would have any significant impact on food policy. For this to happen, the power must be given by the President. The history of the Ten-State Survey alone shows that unless the President and those concerned with food policy in the Cabinet are prepared to give health a predominant place in food and economic policy it is impossible to effectively carry out programs that even attempt to examine the state of the Nation's nutritional health, much less take steps to improve it.

One HEW official who struggled with drafting the departmental policy statement pointed out: “You can't . . . build policy from the bottom up . . . You've got to have some decisions on the big pieces.”

## SUMMARY AND DISCUSSION

Acute food shortages during World War I resulted in rapidly rising domestic food prices and the creation of the Food Administration, which effectively took most control of the food system away from the Department of Agriculture and better represented the consumer's interest. With the Food Administration's food conservation program, the Federal Government attempted for the first time altering the Nation's diet, guiding consumption to maintain health and conserve vital food stocks.

The growth of nutrition knowledge during the 1920's and 1930's further expanded consumer expectations beyond matters of price to nutritional content of the diet. This new element of demand was entered as a factor into food policy decisions during World War II when it again became necessary to create a food coordinating agency,

the War Food Administration, to deal with shortages. Nutritional health considerations were among the governing factors in food production decisions as well as diet guidance, provided by the then newly formulated Recommended Daily Allowances.

In 1973, President Nixon acted, as had other Presidents contending with food shortages, to hold down domestic food prices, forcing the Secretary of Agriculture to share power with other Cabinet members and Presidential advisors. This coordination continues, but the coordinating bodies have limited their intervention into the marketplace to matters of price and political advantage.

For example, from 1973 to the present, when domestic food prices rose more than 40 percent and low-income families suffered nutritionally, the Nixon and Ford Administrations continually have fought the reform and expansion of domestic food assistance programs, particularly the food stamp and women, infant, children (WIC) programs. In addition, they have not acted to moderate price increases in farm in-puts or food processing and retailing by aggressively examining industries for price fixing and/or structural problems that may permit consumer overcharge and excess profits. (See *Nutrition and Food Availability*, December 1974.) In dealing with international consumers, the Administrations have favored U.S. political and military clients in the distribution of food aid in spite of evidence of greater need in other nations. (See *Nutrition and the International Situation*, September 1974.) Finally, the Administrations have done nothing to guide the diet choices of the public in ways that would conserve food resources nor have they encouraged the production of the most nutritious crops requiring the least resources.

In short, the Nixon and Ford Administrations have not taken many of the kinds of steps to fight food price increases, waste and nutrition deficiency taken by previous administrations faced with serious food shortages.

The normal operation of the marketplace, relying on price as an allocator of resources, may provide general equity in times of plenty, but it is evident that in times of shortage, the marketplace is not:

1. *Providing the public with the most healthful variety of foods or the knowledge and incentive to improve diet selection.*
2. *Producing, processing and marketing food in a manner that is most conservative of non-renewable resources.*

If the food system is to be managed in a way that will meet our health and conservation needs it is essential that this, or any Administration:

1. Insist that all decisions relating to food policy and general economic policy as it may relate to nutrition be considered in the light of their impact on nutritional health; and that steps be taken to ensure that food policy has as its principal goal the improvement of nutritional health.
2. Support this policy with funds and organization to permit the following activities, which have been known for at least 40 years to comprise the basis for an effective food and nutrition system.
  - a. *Investigation of the nutritional needs of the public.*

This would include: improved nutrition surveillance; expanded research in nutrient requirements and the study of the impact of varying levels of nutrient consumption.

b. *Increasing the capacity of the food supply and the economy to meet these needs.*

This would include: expanded research into improving nutrient content through breeding; evaluation of land and other resources with a view toward maximizing the production of nutrients using the fewest resources; elimination of wasteful processing and marketing practices; encouragement of greater competition in processing and marketing sectors; improvement of food assistance programs.

c. *Public education in diet to improve health, prevent disease and conserve food.*

This would include: improved nutrition training for medical students; expanded training of personnel for nutrition evaluation and counseling; support for nutrition evaluation and counseling of outpatients; improved nutrition education in schools; use of television for diet counseling.

If domestic food supplies remain relatively plentiful, consumer pressure will probably continue to be directed toward matters of price alone. Pressure to maximize the nutritional benefit of the food supply and to guide the public's diet will probably come only with greater shortages or new evidence of dangers to health in the current diet.

However, although no acute food shortages exist now, such shortages could develop quickly given the low level of world stocks and the unpredictability of food production levels around the world. The low level of stocks does not permit much lead time in redirecting our food system.

Under conditions of unexpected, sharp reduction in world food supplies, major crop-growing nations like the United States would embargo food. The longer these embargoes could be postponed, the less chance for turmoil in food deficient nations.

In addition, although the United States does not and may not face shortages imposed by war, new physical and political limits on raw materials, particularly non-renewable resources, are now apparent. Some of these resources, particularly oil and gas, are essential to food production. Consequently, it would benefit the United States, to both maximize the nutritional benefit of the food supply and conserve it at the same time, as we are attempting to do with fuel.

And the evidence indicates that it is to the benefit of our physical health to do so.

Under these circumstances the United States must both: develop a comprehensive food and nutrition policy; and ensure that nutritional health is one of the principal if not the principal guides for that policy.

(Appendices DD through NN are excerpts from various reports and documents published since World War I describing the need for and/or ways of implementing a national food and nutrition policy. Appendix OO is Senator McGovern's bill—S. 2867—introduced in January 1976, which would establish a Federal Office of Food and Nutrition, with statements and press reports related to the bill.)

## RECOMMENDATIONS

It is recommended:

1. That, as a first step to integrating nutritional health concerns into United States food and agricultural policy, the President appoint

the Secretary of Health, Education, and Welfare to the Agricultural Policy Committee established in March 1976.

2. That Congress establish within the Executive Office of the President an Office of Food and Nutrition, responsible for developing plans for the improvement of the Nation's nutritional health and to assist other nations in this respect. The Office would function as described in S. 2867 (Appendix OO), with its primary duties including: Preparation of an annual food and nutrition plan for presentation with the State of the Union message; coordination of nutrition surveillance programs; and coordination of nutrition activities in various Departments and Agencies.

3. That Congress establish within the Department of Agriculture, as prescribed in S. 2867, an Assistant Secretary for Food Policy.

4. That Congress establish within HEW an Office of Nutritional Health Evaluation which would be responsible for measuring and reporting on the nutritional health implications, domestically and internationally, of U.S. food production, processing and marketing policies and of general economic policies as they may relate to nutrition.

5. That Congress require the Secretary of Health, Education, and Welfare to provide a report annually on the Department's plans in the area of nutrition.

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## APPENDIXES

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## APPENDIX A

### BENEFITS FROM HUMAN NUTRITION RESEARCH

[By C. Edith Weir]

This report is part of a study conducted at the direction of the Agricultural Research Policy Advisory Committee, U.S. Department of Agriculture. A joint task group representing the State Agricultural Experiment Stations and the U.S. Department of Agriculture was assigned the responsibility for making the study. Task group members were:

Dr. Virginia Trotter, co-chairman, dean, College of Home Economics, University of Nebraska; Dr. Steven C. King, co-chairman, associate director, Science and Education Staff, U.S. Department of Agriculture; Dr. Walter L. Fishel, assistant professor, Department of Agriculture and Applied Economics, University of Minnesota; Dr. H. Wayne Bitting, program planning and evaluation staff, Agricultural Research Service, U.S. Department of Agriculture; Dr. C. Edith Weir, Assistant Director, Human Nutrition Research Division, Agricultural Research Service, U.S. Department of Agriculture.

Better health, a longer active lifespan, and greater satisfaction from work, family and leisure time are among the benefits to be obtained from improved diets and nutrition. Advances in nutrition knowledge and its application during recent decades have played a major role in reducing the number of infant and maternal deaths, deaths from infectious diseases, particularly among children, and in extending the productive lifespan and life expectancy. Significant benefits are possible both from new knowledge of nutrient and food needs and from more complete application of existing knowledge. The nature and magnitude of these benefits is estimated in Table 1. Potential benefits may accrue from alleviating nutrition-related health problems, from increased individual performance and satisfactions and increased efficiency in food services. A vast reservoir of health and economical benefits can be made available by research yet to be done on human nutrition.

*Major health problems are diet related.*—Most all of the health problems underlying the leading causes of death in the United States (Fig. 1) could be modified by improvements in diet. The relationship of diet to these health problems and others is discussed in greater detail later in this report. Death rates for many of these conditions are higher in the U.S. than in other countries of comparable economic development. Expenditures for health care in the U.S. are skyrocketing, accounting for 67.2 billion dollars in 1970—or 7.0 percent. of the entire U.S. gross national product.

*The real potential from improved diet is preventive.*—Existing evidence is inadequate for estimating potential benefits from improved diets in terms of health. Most nutritionists and clinicians feel that the real

SOURCE. Human Nutrition Research Division, Agricultural Research Service, U.S. Department of Agriculture. Issued August 1971 by Science and Education Staff, United States Department of Agriculture, Washington, D.C.

potential from improved diet is preventative in that it may defer or modify the development of a disease state so that a clinical condition does not develop. The major research thrust, nationwide, has been on the role of diet in treating health problems after they have developed. This approach has had limited success. USDA research emphasis has been placed on food needs of normal, healthy persons and findings from this work have contributed much of the existing knowledge on their dietary requirements.

*Benefits would be shared by all.*—Benefits from better nutrition, made possible by improved diets, would be available to the entire population. Each age, sex, ethnic, economic, and geographic segment would be benefited. The lower economic and nonwhite population groups would benefit most from effective application of current knowledge.

These savings are only a small part of what might be accomplished for the entire population from research yet to be done. Some of the improvements can be expressed as dollar benefits to individuals or to the nation. The social and personal benefits are harder to quantify and describe. It is difficult to place a dollar figure on the avoidance of pain or the loss of a family member; satisfactions from healthy, emotionally adjusted families; career achievement; and the opportunity to enjoy leisure time.

*Major health benefits are long range.*—Predictions of the extent to which diet may be involved in the development of various health problems have been based on current knowledge of metabolic pathways of nutrients, but primarily of abnormal metabolic pathways developed by persons in advanced stages of disease. There is little understanding of when or why these metabolic changes take place. The human body is a complex and very adaptive mechanism. For most essential metabolic processes alternate pathways exist which can be utilized in response to physiological, diet, or other stress. Frequently, a series of adjustments take place and the ultimate result does not become apparent for a long time, even years, when a metabolite such as cholesterol accumulates. Early adjustment of diet could prevent the development of undesirable long-range effects. Minor changes in diet and food habits instituted at an early age might well avoid the need for major changes, difficult to adopt later in life.

*Regional differences in diet related problems.*—The existence of regional differences in the incidence of health problems has been generally recognized and a wide variation in death rates still exists among geographic areas. These differences in death rate may reflect the cumulative effect of chronic low intake levels of some nutrients throughout the lifespan and by successive generations. A number of examples of regional health problems attributable to differences in the nutrient content of food or to dietary pattern could be given. Perhaps the best known is "the goiter belt" where soils and plants were low in iodine and the high incidence and death rate of goiter was reduced when the diet was supplemented with iodine. Another situation existed in some of the southern states where pellagra was a scourge a few decades ago. Corn was the major food protein source for low income families in these areas. The resulting niacin deficiency raised the incidence of pellagra to epidemic proportions.

Migration from the high death rate areas almost always results in a reduction in the death rate, although the improvement never approaches the level achieved by those who were born and continued to live in the low rate areas. Similarly, persons who move from low rate areas into higher rate areas lose part of the advantage. If the death rate for one of the high death rate areas, Wilkes Barre, Pennsylvania, were applied to the entire U.S. population, 140,489 more persons under 65 years would have died per year during the period 1959-61. If the death rate for one of the lower rate areas, Nebraska, had prevailed, there would have been 131,634 fewer deaths. The highest death rate areas generally correspond to those where agriculturists have recognized the soil as being depleted for several years. This suggests a possible relationship between submarginal diets and health of succeeding generations.

TABLE 1.—MAGNITUDE OF BENEFITS FROM NUTRITION RESEARCH

Health problem	Magnitude of loss	Potential savings from improved diet
PART A. NUTRITION RELATED HEALTH PROBLEMS		
Heart and vasculatory.....	Over 1,000,000 deaths in 1967 Over 5 million people with definite or suspect heart disease in 1960-62. \$31.6 billion in 1962.....	25-percent reduction. 20-percent reduction.
Respiratory and infectious.....	82,000 deaths per year 246 million incidents in 1967..... 141 million work-days lost in 1965-66..... 166 million school days lost..... \$5 million in medical and hospital costs..... \$1 billion in cold remedies and tissues.....	20 percent fewer incidents. 15-20 percent fewer days lost. Do. \$1 million. \$20 million.
Mental health.....	2.5 percent of population of 5.2 million people are severely or totally disabled. 25 million people have manifest disability.	10 percent fewer disabilities.
Infant mortality and reproduction.	Infant deaths in 1967—79,000..... Infant death rate 22.4 per 1,000..... Fetal death rate 15.6 per 1,000..... Maternal death rate 28.0 per 100,000 live births..... Child death rate (1-4 yrs.) 96.1 per 100,000 in 1964..... 15 million with congenital birth defects.....	50 percent fewer deaths. Do. Do. Do. Reduce rate to 10 per 100,000. 3 million fewer children with birth defects.
Early aging and lifespan.....	49.1 percent of population, about 102 million people have one or more chronic impairments. People surviving to age 65: Percent White males..... 66 Negro males..... 50 White females..... 81 Negro females..... 64 Life expectancy in years: White males..... 67.8 Negro males..... 61.1 White females..... 75.1 Negro females..... 68.2	10 million people without impairments 1 percent improvement per year to 90 percent surviving. Bring Negro expectancy up to White.
Arthritis.....	16 million people afflicted..... 27 million work days lost..... 500,000 people unemployed..... Annual cost \$3.6 billion.....	8 million people without afflictions. 13.5 million work days. 125,000 people employed. \$900 million per year.
Dental health.....	44 million with gingivitis; 23 million with advanced periodontal disease; \$6.5 billion public and private expenditures on dentists' services in 1967; 22 million edentulous persons (1 in 8) in 1957; 1/2 of all people over 55 have no teeth.	50 percent reduction in incidence, severity and expenditures.
Diabetes and carbohydrate disorders.	3.9 million overt diabetic; 35,000 deaths in 1967; 79 percent of people over 55 with impaired glucose tolerance.	50 percent of cases avoided or improved.
Osteoporosis.....	4 million severe cases, 25 percent of women over 40.....	75 percent reduction.
Obesity.....	3 million adolescents; 30 to 40 percent of adults; 60 to 70 percent over 40 years.	80 percent reduction in incidence.
Anemia and other nutrient deficiencies.	See improved work efficiency, growth and development, and learning ability.	
Alcoholism.....	5 million alcoholics; 1/2 are addicted..... About 24,500 deaths in 1967 caused by alcohol..... Annual loss over \$2 billion from absenteeism, lowered production and accidents.	33 percent. Do. Do.

TABLE 1.—MAGNITUDE OF BENEFITS FROM NUTRITION RESEARCH—Continued

Health problem	Magnitude of loss	Potential savings from improved diet
Eyesight.....	48.1 percent, or 86 million people over 3 years wore corrective lenses in 1966; 81,000 become blind every year; \$103 million in welfare.	20 percent fewer people blind or with corrective lenses.
Cosmetic.....	10 percent of women ages 9 or more with vitamin intakes below recommended daily allowances.	
Allergies.....	32 million people (9 percent) are allergic..... 16 million with hayfever asthma..... 7-15 million people (3-6 percent) allergic to milk..... Over 693 thousand persons (1 in 3,000) allergic to gluten.	20 percent people relieved. 90 percent people relieved. Do.
Digestive.....	8,495 thousand work-days lost; 5,013 thousand school-days lost; About 20 million incidents of acute condition annually. \$4.2 billion annual cost; 14 million persons with duodenal ulcers; \$5 million annual cost; 4,000 new cases each day.	25 percent fewer acute conditions. Over \$1 billion in costs.
Kidney and urinary.....	55,000 deaths from renal failure; 200,000 with kidney stones.	20 percent reduction in deaths and acute conditions.
Muscular disorders.....	200,000 cases.	10 percent reduction in cases.
Cancer.....	600,000 persons developed cancer in 1968; 320,000 persons died of cancer in 1968.	20 percent reduction in incidence and deaths.

## PART B. INDIVIDUAL SATISFACTIONS INCREASED

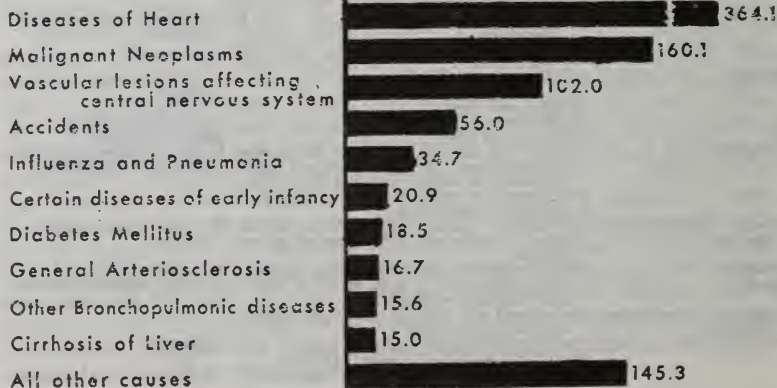
Improved work efficiency.....		5 percent increase in on the job productivity.
Improved growth and development.	113,000 deaths from accident. 324.5 million work-days lost; 51.8 million people needing medical attention and/or restricted activity.	25 percent fewer deaths and work-days lost.
Improved learning ability....	Over 6.5 million mentally retarded persons with I.Q. below 70; 12 percent of school age children need special education.	Raise I.Q. by 10 points for persons with I.Q. 70-80.

## PART C. INCREASED EFFICIENCY IN FOOD SERVICES

Improved efficiency in food preparation and menu planning.	Not estimated.
Reduced losses of nutrients in food storage, handling, and preparation.	Do.
Improved efficiency in food selection.	Do.
Improved efficiency in food programs.	Do.

## LEADING CAUSES OF DEATH

Rates per 100,000, U.S. 1969



SOURCE: BUREAU OF THE CENSUS

FIGURE 1

## APPENDIX B

### ECONOMIC BENEFITS FROM THE ELIMINATION OF HUNGER IN AMERICA

[by Barry M. Popkin\*]

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#### ABSTRACT.

The relationship between the elimination of malnutrition and improved mental and physical performance, and lowered mortality and morbidity rates are examined.

These relationships are used to determine the economic benefits which will accrue to this society and the poverty population if malnutrition is eliminated. These benefits can also be viewed as social costs of continued malnutrition.

Traditional human capital framework is utilized to determine the present value of the benefits which will accrue over the lifetime of the present malnourished poverty population. The most significant gain is from higher educational achievement. In this area, the elimination of malnutrition among 3.3 million poor children will produce a \$6.3 to \$18.8 billion increase in GNP over the lifetime of these children. The range of total economic benefits from the elimination of malnutrition will be between \$14.4 and \$50.3 billion.

#### INTRODUCTION

Hunger and malnutrition have been a key concern for many in this nation. Accompanying this concern about hunger's causes and effects have been a myriad of proposals and programs dealing with the perceived problems.

Any program which attempts to deal seriously with this problem will be costly. On the other hand, it is costly not to take action against hunger. The cost of such inaction can be viewed as the potential economic benefits from the elimination of malnutrition.

This paper examines certain of these benefits which may come from the elimination of malnutrition among America's population under the poverty line. Only the effects on economic performance of the poverty population were calculated in this study. These benefits can be broken down into five categories. Excluded are the external benefits to the nonpoverty population and numerous nonquantifiable benefits to the poverty population.

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\*Barry M. Popkin is a researcher with the Institute for Research on Poverty. This study was based on material developed for the U.S. Senate Committee on Nutrition and Human Needs in July 1969. This study was financed by the Institute for Research on Poverty at the University of Wisconsin pursuant to the Economic Opportunity Act of 1964. Special thanks go to Professors Ralph Andreano and W. Lee Hansen of the University of Wisconsin, and Nancy Amidei of the Senate Committee and Professor R. Lidman of Oberlin for their assistance. Economics graduate student Stephen Gold was the research assistant for this study.

These categories are presented below with their cumulative economic benefits in parentheses.<sup>1</sup>

1. *Education*.—Improved nutrition improves learning through what we believe are structural changes in the brain, prevents an interruption of cognitive development, and increases the ability to concentrate and work (\$6.4–\$19.2 billion).

2. *Physical performance*.—Improved nutrition increase the capacity for prolonged physical work, raises the productivity of workers and increases the motivation to work (\$6.4–\$25.8 billion).

3. *Morbidity*.—Improved nutrition results in higher resistance to disease, and lowers the severity of disease (\$201–\$502 million).

4. *Mortality*.—Improved nutrition decreases fetal, infant, child and certain types of maternal mortality (\$68–\$157 million).

5. *Intergenerational effects*.—Improved nutrition makes healthy mothers who have healthy children. Also, better educated parents lead to better educated children (\$1.3–\$4.5 billion).

These computations indicate that if malnutrition among members of the poverty population were eliminated, the present value increase of national product, conservatively estimated, would be between \$14.4 and \$50.3 billion, assuming that motivation, training level, need achievement, and time horizons would remain the same. It should be noted that although all these relationships between the various categories such as physical and mental performance are quite clear, many of the specific interrelationships have not been examined for their effects on large populations. These relationships are mainly based on small studies and interferences drawn from laboratory and clinical findings.

This study consists of three parts: First, estimation of the number malnourished; second, determination of the economic effects if malnutrition were eliminated; and third, evaluation of the biases of the analysis.

#### I. ESTIMATION OF THE "MALNOURISHED POPULATION"

Nutritional status tends to be closely linked with income. Thus the highest concentration of malnourished people is found in the poverty population below the poverty line. In fact, the poverty line is based on an income level necessary to avoid severe malnutrition. However, the amount indicated is not adequate for urban families where a family of four with an income of \$5,500, or \$1,000–\$2,000 above "poverty," probably would not be able to purchase enough foods. Actually, these families should be classified as poor under a poverty budget based on a realistic food plan.

Biochemical studies of blood and urine were used to determine the percent malnourished in various age-race-geographical groupings. In general, biochemical findings are quite valid as a measure of nutritional status.

As no comprehensive national study has been made to determine the percent of malnutrition among the poverty population, the data used here to provide a picture have been put together from many

<sup>1</sup> The less tangible effects of hunger and malnutrition—listlessness, irritability, depression—were not valued but cannot be dismissed. Structural problems such as weight, height, fragile bones, and the trainability of muscles were not valued.

sources.<sup>2</sup> Among these are small scale studies such as those done by OEO on Head Start mothers and children. Much of the data used is taken from unpublished reports made by OEO or the Senate Committee on Nutrition and Human Needs. Table 1 shows the poverty population; Table 2, the percent malnourished; and Table 3, the malnourished population.

TABLE 1.—POVERTY POPULATION

Age	Non-South				South				Total
	Urban		Rural		Urban		Rural		
	White	Non-white	White	Non-white	White	Non-white	White	Non-white	
0 to 1-----	180,810	183,520	141,120	2,960	53,900	44,992	114,170	64,528	786,000
1 to 5-----	665,173	1,150,621	519,551	19,654	198,433	281,591	418,824	403,839	3,657,686
6 to 17-----	1,650,610	937,870	1,166,022	64,398	570,102	607,625	1,248,728	1,141,972	7,387,327
14 to 65 or over, working males <sup>1</sup> -----	1,444,000	348,516	1,053,192	42,339	562,522	288,106	1,150,208	602,571	-----
14 to 65 or over, working females-----	2,007,796	505,787	896,074	42,209	547,103	313,900	679,049	363,150	-----
Pregnant women, 14 to 44-----	559,341	299,649	203,265	16,683	144,630	146,556	149,840	100,348	-----

<sup>1</sup> Few men and women age 14 to 17 work. Most of this age group are included in the age 6 to 17 group.

Source: 1967 current population survey with poverty level based on the USDA's lowest priced food plan (economy plan).

TABLE 2.—POVERTY POPULATION MALNOURISHED

[Percent malnourished]

Age	Non-South				South			
	Urban		Rural		Urban		Rural	
	White	Nonwhite	White	Nonwhite	White	Nonwhite	White	Nonwhite
0 to 2.....	30	57	38	25	33	54	30	60
2 to 5.....	28	45	19	19	21	40	20	20
5 to 16.....	15	40	20	35	30	46	17	25
16 to 59.....	30	50	22	65	35	60	20	40
Pregnant women.....	35	65	40	63	60	70	70	60

Source: Popkin, Barry M., "Economic Benefits from the Elimination of Malnutrition," study prepared for the U.S. Senate Committee on Nutrition and Human Needs, July 1969.

TABLE 3.—MALNOURISHED POPULATION

Age	Non-South				South				Total
	Urban		Rural		Urban		Rural		
	White	Non-white	White	Non-white	White	Non-white	White	Non-white	
0 to 1.....	54,243	104,606	53,625	740	17,787	24,296	34,251	38,717	328,265
1 to 5.....	186,248	517,779	98,715	3,734	41,671	112,636	83,765	121,152	1,165,700
6 to 17.....	247,592	375,148	233,264	22,539	171,031	279,508	212,284	285,493	1,826,799
14 to 65 or over, working males.....	433,200	174,258	231,702	27,845	196,883	172,864	230,042	241,028	1,707,822
14 to 65 or over, working females.....	602,339	252,894	197,136	27,436	191,486	187,854	135,810	145,260	1,740,215
Pregnant women.....	195,769	194,722	81,306	10,510	86,778	102,589	104,688	66,209	836,771
Total.....	1,719,391	1,619,407	895,688	92,804	705,636	879,747	801,040	891,859	7,605,572

Source: Combination of tables 1 and 2.

<sup>2</sup> The National Nutrition Survey in 10 states, while completed for purposes of data collection, has not been analyzed and has been only partially released. It is generally accepted that HEW does not want to publish the results because the incidence of malnutrition was found to be so widespread.

## II. CALCULATION OF ECONOMIC BENEFITS

Quantifiable, economic benefits from the elimination of malnutrition may be realized in the areas of mental performance, physical performance, morbidity, mortality, and intergenerational effects.<sup>3</sup> All of these effects can be estimated. Each aspect will be taken up separately.

A few points must be kept in mind. First, the malnourished who are hospitalized include not only the patients, almost all young children, of course, who are classified in hospital records as suffering from malnutrition but also many of those who are classified under other headings, with illnesses to which mild, moderate, or severe malnutrition contributed to a lesser or greater degree, although their immediate need for aid was precipitated by an intercurrent illness. Just as a man with terminal carcinoma of the bronchus dying of pneumonia should be considered as dying not of pneumonia but of the underlying causes, so a child with moderate or severe malnutrition who dies from gastroenteritis should be considered as dying from malnutrition. In a well nourished child, the gastroenteritis probably would not have been fatal or would not have occurred at all. Second, many economic benefits from the elimination of malnutrition will be excluded from consideration in this study. The major exclusion is the cost incurred in connection with the treatment of the malnourished. Described briefly, that is the cost of medical services including the cost to hospital of inpatient treatment of malnutrition and related diseases and the cost of out-patient and health centers and other clinic treatment, plus the cost to parents or person involved, including the cost of treatment by private doctor, the cost of transport to and from treatment and for hospital visiting, and the cost to responsible relatives of time lost from work for all these actions.<sup>4</sup>

### **A. Mental performance—Education achievement**

If malnutrition among poor children were eliminated, economic benefits would come about because these children would be capable of 10–30 percent higher mental achievement. This higher achievement would result in both a 10–30 percent higher performance in each grade and a 10–30 percent reduction in the number of grades repeated by these same children. The causative relationship between the higher achievement and improved nutritional status is based upon a detailed analysis of the clinical nutrition literature and discussions with many nutritionists. A few of the more significant studies are referred to in this paper.

There are 3.3 million malnourished children living in poverty. The total gain in higher mental performance would produce a gain in lifetime earnings of \$6.4 to \$19.2 billion, mainly in higher achievement. These figures are present values.

#### *1. Relationship*

There are three aspects to this relationship. First, malnutrition increases the incidence of permanent brain damage significantly among

<sup>3</sup> Some of the sources are contained in the following section. A detailed 12-page bibliography is available from the author upon request. Medical and clinical nutrition journals and books provided most of the information required for this analysis.

<sup>4</sup> R. Cook, "The Financial Cost of Malnutrition in the 'Commonwealth Caribbean,'" *The Journal of Tropical Pediatrics*, (June 1968): 60, 61.

children aged 0-4 years.<sup>5</sup> If the under nutrition occurs after the age of three years, there probably will be no permanent damage.

Second, malnourished children even if they have not suffered brain damage, may suffer retarded cognitive development. The apathy of nutritional deprivation (especially anemia and protein deficiency) results in poorly developed inter-sensory integrative performance. Often the results of this apathy and listlessness is questionable but Dr. Joaquin Cravioto sees these aspects of the infant's behavior leading to a progressive withdrawal from the environment.<sup>6</sup> The inactive child does not deal enough with visual and tactile sensations and has fewer contacts with other persons. In total he does not utilize the stimuli around him. This leads to either a delay in the conditioning or the effective production of conditioned reflexes. "Evidence already exists that the lag in the development of certain varieties of inter-sensory integrations have a high correlation with backwardness in learning to read" and . . . "can interfere with a second primary educational skill—learning to write."<sup>7</sup>

Third, children aged 6-18 cannot utilize fully the potential to concentrate and work displayed by well-nourished children of the same background. Hungry students are unable to concentrate, have poor judgment, are irritable, moody and unable to sustain mental application. Controlled studies done in Asia, Africa, and the United States have shown that increased food intake produces changes in mental performance.<sup>8</sup>

Two highly significant and suggestive studies within the United States were done, one in rural areas, the other in an urban area. During a 3-year study in isolated and stable Kentucky county school districts, children of the experimental schools with improved nutrition gained 30 months in mental age, compared to 15.5 months gained by the children of the control schools—a difference of 14.5 months (a performance 94 percent better than the control group).<sup>9</sup> In 1944, Kugelmass, Poull, and Samuel conducted a study on nutritional performance in normal and mentally retarded children in New York City.<sup>10</sup> Fifty of the children classified as normal malnourished and 50 as normal well-nourished were matched for chronological age, I.Q., and interval between Kuhlman-Binet or Stanford-Binet tests. Following a period of observation which varied between 1, and 3½ years, the malnourished group with the nutritional supplements showed an average I.Q. increase of +18 points in contrast with an average of 0.9 for the well-nourished group.

<sup>5</sup> Cravioto and DeLicardie qualify their findings by the duration of the untreated malnutrition and the period of infancy. Also they feel the question of permanent retardation remains open. Also they feel it is difficult to "distinguish the particular contributions of early severe malnutrition, adequate environment, and experimental opportunities to defective cognitive function."

<sup>6</sup> J. Cravioto and E. R. DeLicardie, "The Long-Term Consequences of Protein-Calorie Malnutrition," *Nutrition Reviews*, 29, No. 5 (May 1971): 111. Also, Joaquin Cravioto, "Malnutrition and Behavioral Development in the Preschool Child," from *Pre-School Child Malnutrition*, National Academy of Sciences—National Research Council, Publication 1282, Washington, D.C. 1966.

<sup>7</sup> George B. Graham, "Effect of Infantile Malnutrition on Growth," *Federation Proceedings*, 26, (January-February 1967): 139.

<sup>8</sup> Joaquin Cravioto, "Malnutrition and Behavioral Development in the Preschool Child," from *Pre-School Child Malnutrition*, National Academy of Sciences—National Research Council, Publication 1282, Washington, D.C. 1966.

<sup>9</sup> Joaquin Cravioto, Elsa DeLicardie and Herbert G. Birch, "Nutrition, Growth, and Neurointegrative Development: An Experimental and Ecologic Study," *Pediatrics*, 38, No. 2, part II (August 1966).

<sup>10</sup> Both of these quotes are taken from Cravioto, et al., "Nutritional Growth," p. 359.

<sup>11</sup> Ethel Austin Martin, *Nutrition in Action* (New York: Holt, Rinehard, and Winston, Inc., 1963): 213; Nevins S. Scrimshaw, "Nutrition and Mental Development" (Paper delivered at the Twenty-Fifth Anniversary Commemoration of the Nutrition Foundation, Inc., November 17, 1966): 13, 14.

<sup>12</sup> Roger J. Williams, *Nutrition in a Nutshell* (New York: Doubleday and Company, Inc., 1962).

<sup>13</sup> Maurice F. Seay and Leonard E. Meece, "Sloane Experiment in Kentucky," *Bulletin of the Bureau of Social Services*, College of Education, v. 16 (University of Kentucky, June 1944): 68.

<sup>14</sup> Scrimshaw, "Nutrition and Mental Development."

## 2. Economic Benefits

The pertinent economic benefits from higher mental performance were calculated by using the lifetime income differential between high-school drop-outs and high-school graduates.<sup>11</sup> There are two basic assumptions which justify this: First, gains in yearly achievement have the same implication for future earnings as do gains in knowledge resulting from more years of schooling. Second, short-term gains in educational achievement can be maintained over time. Some children with better nutrition will attend school for an extra year while others will gain in achievement. The extra year in school and the gain in yearly achievement will be assumed to have the same impact on a person's earning potential. Among malnourished children aged 0-5 and 6-18, 10-30 percent higher achievement will be gained by eliminating malnutrition.

The income differential between high-school graduates and drop-outs is fairly representative of what additional schooling (or an increase in achievement) is worth in economic terms. ". . . why the drop-out-graduate differential is more appropriate is that average educational attainment for under-privileged children falls within the tenth to twelfth grade range. If more is learned in earlier years *and* is maintained, it would seem most akin to lengthening the average period in high school, moving it closer to the twelfth grade level. . . ." <sup>12</sup>

In Table 4 the results of those calculations of higher performance can be found. The percentage discussed earlier were used here. The total impact of increased educational achievement from the elimination of malnutrition ranges from \$6.3 billion to \$18.8 billion. These lower and upper bounds give the range of benefits attributed to higher achievement.

TABLE 4.—ECONOMIC BENEFITS OF EDUCATION, EDUCATIONAL ACHIEVEMENT—CHILDREN (0-17)

	Nonsouth		South		Total
	Urban	Rural	Urban	Rural	
White:					
Lower limit.....	\$922, 769, 720	\$728, 909, 486	\$435, 762, 503	\$624, 465, 180	.....
Upper limit.....	2, 768, 309, 159	2, 186, 728, 459	1, 307, 287, 510	1, 873, 395, 540	.....
Nonwhite:					
Lower limit.....	1, 885, 935, 890	51, 070, 778	787, 321, 464	842, 001, 397	.....
Upper limit.....	5, 657, 807, 669	153, 212, 333	2, 361, 964, 392	2, 526, 004, 192	.....
Total:					
Lower limit.....					\$6, 278, 236, 418
Upper limit.....					18, 834, 709, 254

Note: Numbers may not add due to rounding.

<sup>11</sup> Income data was available for each grouping from the Current Population Survey. Present values were calculated using standard rates of survival, a 6 percent interest rate and a 2 percent growth rate (4 percent discount rate). An explanation of the present value concept and the tables of present values for various education levels can be obtained from the author.

<sup>12</sup> Thomas I. Ribich, *Education and Poverty*, (Washington, D.C.: The Brookings Institution, 1968): 68-70. For a further discussion of this subject see chapters 1 and 4. This income differential was calculated from the Current Population Reports. Series P-60, No. 56 which gives the present value of lifetime incomes for a normal population and the present value for the poor.

The poverty population values were not used due to peculiarity of the data for high-school graduates and above. Much research has indicated the difficulty with education and poverty linkages. These values were then deflated by about 20 percent. The reasons for this are straight-forward. The income differential between dropouts and graduates for the normal population must overstate this differential since persons in the poverty subgroup would have lower average and lifetime income. It is the ratio of the high school graduate differential for people with less than \$3,000 income versus people with income of \$3,000-\$6,000. Due to the fact that education is less important for poor people, their differential will peak earlier than the normal population. Thus, the results of the deflation are somewhat conservative. The 20 percent figure was obtained from unpublished research by Professor Robinson Hollister, formerly of the University of Wisconsin, now a visiting professor at Princeton University. The conclusions of Lester Thurow's Brookings Publication, *Poverty and Discrimination*, reinforce this technique.

Also, there will be a 10-30 percent reduction in the rate of grades repeated by these same children. Table 5 contains the repeating (flunk) rates for the poverty population. The economic benefits received for lowering the failure rate are found in Table 6. The results are determined by taking the number of malnourished children of from 6 to 17 years of age (the school population) and multiplying this by the respective failure rates to determine the number of children who fail at least one year of school. The percentage reduction in this rate was then applied and, finally, the current income for 18-year olds was used to determine economic benefits. It is assumed that the reduction of failure rates means those children who will no longer repeat a grade will now receive income at least 1 year sooner and, thus, income at age 18 was used. The range of benefits would be between \$122,889,901 and \$368,669,703.

TABLE 5.—RATE FOR REPEATING GRADES AMONG LOW-INCOME CHILDREN

	White		Nonwhite	
	Rural	Urban	Rural	Urban
Male.....	0.2244	0.2213	0.2730	0.2699
Female.....	.1801	.1770	.2288	.2271

Source: John Conlisk, "Determinants of School Enrollment and School Performance," "The Journal of Human Resources," vol. 4, No. 2, spring 1969. The failure rate used is for boys and girls age 10 to 13. This is approximately the median for the ages 7 to 9, 10 to 13, and 14 to 15. Data were not available for the ages 16 to 17 when the failure rates tend to be higher.

TABLE 6.—ECONOMIC BENEFITS OF EDUCATION, FAILURE RATE REDUCTION (6 TO 17)

	Nonsouth		South		Total
	Urban	Rural	Urban	Rural	
White:					
Lower limit.....	\$14,637,187	\$14,517,143	\$10,111,040	\$13,214,856	-----
Upper limit.....	43,911,561	43,551,429	30,333,119	39,644,568	-----
Nonwhite:					
Lower limit.....	27,137,673	1,686,794	20,219,211	21,365,997	-----
Upper limit.....	81,413,019	5,060,381	60,657,632	64,097,991	-----
Total:					
Lower limit.....					122,889,901
Upper limit.....					368,669,703

Note: Number may not add due to rounding.

## B. Physical performance—Worker productivity

Economic benefit from the elimination of malnutrition will affect worker productivity. Malnourished working people in poverty (1.71 million men and 1.74 million women) will experience a 10-40 percent increase in their productivity. The resultant lifetime economic benefits to this society from this productivity-gain will range from \$6.5 to \$25.9 billion.

### 1. Relationships

Caloric requirements for work are one of the three major requirements that must be satisfied by the energy produced from food. The other two are basal metabolism requirements to keep up the life processes (1600-1800 calories) and growth requirements for children, adolescents, and expectant mothers. There is a close correlation between adequacy of work calories and work productivity. If the work calories are below the required amount for the activity being under-

taken, two things will happen. First, the body will adapt somewhat to this lower food intake by avoiding effort. Second, the body will lose weight.

Numerous studies done in the United States and other Western industrial countries illustrate the significance of this relationship between improved nutrition and physical performance.<sup>13</sup> One of the best controlled studies was done with aircraft workers in Southern California. "One group of workers was given large doses of several vitamins 5 days a week for 9-13 months; a control group was given placebo. During the last 6 months the vitamin group showed statistically significant superiority over the placebo group in absenteeism (3.90 days compared with 4.79 days), in turnover of labor force (8.4 per 100 as compared with 13.5), and in merit ratings based on a careful appraisal of efficiency."<sup>14</sup>

Table 7 shows the relationship between additional protein intake and an improved capacity for work. These studies had poor controls and leave much doubt of the significance of this relationship.

TABLE 7.—PROTEIN INTAKE AND CAPACITY FOR WORK<sup>1</sup>

Year, occupational groups, and "performance capacity"	Intake of calories per day	Intake of g protein per kilogram
1939-41—Miners (Germany):		
Rising.....	3,800	1-1.2
Falling.....		below 1
1942—Gardeners (England):		
Unchanged.....	3,000	1.0
Falling.....		.7
1946—Scientists (United States):		
Unchanged.....	3,000	.8
Steep rise after 6 weeks.....		1.6
1951—Students (United States):		
Doubling of muscle power in 12 weeks' training period.....	4,000	2.0
Slight increase in 12 weeks.....		1.0
No change in 8 weeks.....		.8

<sup>1</sup> Keller and Kraut, "Work and Nutrition," p. 73.

## 2. Economic Benefits

The pertinent economic benefits were calculated only for the malnourished working population between the ages of 14 and 64. The increase in worker performance of 10-40 percent depends on the degree of labor intensity and the previous nutritional status of the worker.

The calculation of benefits is based on one assumption: The employment picture of each worker from each race-sex-region cohort is assumed to be constant. Thus, his productivity will increase but his job and salary will not change so each worker will not capture his increase in productivity.

Then, the benefits to society for each workers' improved productivity are the 10-40 percent increase in productivity, times the present value of lifetime earnings for his sex-race-region-group. Benefits of \$6.5 to \$25.9 billion will necessarily accrue to society in terms of increased productivity. These benefits are calculated in Table 8.

<sup>13</sup> The Keller and Kraut and the UNFAO articles summarize many of these studies.

W. D. Keller and H. A. Kraut, "Work and Nutrition," Geoffrey H. Bourne, ed., *World Review of Nutrition and Dietetics*, V. 3, (New York: Hafner, 1962).

W. W. Tuttle and Edward Herbert, "Work Capacity with No Breakfast and a Mid-Morning Break," *Journal American Dietetic Association*, 37, (August 1960).

United Nations Food and Agriculture Organization, *Nutrition and Working Efficiency* (Rome: UNFAO, 1962).

C. E. A. Winslow, *The Cost of Sickness and the Price of Health*, World Health Organization (Geneva, 1951).

<sup>14</sup> Winslow, *The Cost of Sickness*, p. 35.

TABLE 8.—ECONOMIC BENEFITS PHYSICAL PERFORMANCE, WORKERS 14 TO 65 PLUS

	Nonsouth		South		Total
	Urban	Rural	Urban	Rural	
Male:					
White:					
Lower limit .....	\$873, 634, 440	\$477, 931, 715	\$432, 866, 964	\$488, 632, 212	-----
Upper limit .....	3, 494, 537, 760	1, 911, 726, 862	1, 731, 467, 855	1, 954, 528, 848	-----
Nonwhite:					
Lower limit .....	459, 710, 030	64, 940, 109	430, 569, 651	582, 998, 526	-----
Upper limit .....	1, 838, 840, 119	259, 760, 436	1, 722, 278, 604	2, 331, 994, 106	-----
Female:					
White:					
Lower limit .....	787, 377, 540	242, 496, 994	227, 542, 814	152, 283, 753	-----
Upper limit .....	3, 149, 510, 163	969, 987, 974	910, 171, 255	609, 135, 021	-----
Nonwhite:					
Lower limit .....	610, 637, 852	51, 184, 602	363, 722, 915	216, 350, 244	-----
Upper limit .....	2, 442, 551, 410	204, 738, 406	1, 454, 891, 659	865, 400, 976	-----
Total:					
Lower limit .....					6, 462, 880, 361
Upper limit .....					25, 851, 521, 454

### C. Morbidity and Resistance to Disease

As a result of better nutrition, fewer work days will be missed due to illness by the 3.45 million working poor. The days lost from work (morbidity rate) will be reduced 10–25 percent. The economic benefits from this will be \$200 to \$500 million.

#### 1. Relationships

R. J. Williams summarizes this relationship when he states that "every amino acid, mineral, and vitamin which contributes to the health and vigor of one's body is in a sense an anti-infective agency because resistance to disease is a sine qua non of continued existence, and resistance is the highest in those in which the cells and tissues most intimately involved in disease-resistance processes are nourished at the highest level of excellence."<sup>15</sup>

Poor nutrition can lead to a greater incidence of bacterial, viral, rickettsial and protozoal infections. Some of the mechanisms of this synergism are interference with antibody response, alternation of tissue integrity, interference with non-specific protective substances, non-specific destruction of bacterial toxins, and nutritional alteration of endocrine balance.<sup>16</sup> Protein, iron, vitamins B and C are key nutrients. The following are examples of these relationships.

a. Leitch has called attention to the Tronheim Naval Training School in which over a period of many years, one-third of the cadets developed tuberculosis, a rate which was not lowered by better housing but which promptly dropped to less than that for the country as a whole, when fresh milk, meat and fruit were added to the diet. Downes divided 194 Negro families exposed to reinfection with tuberculosis into two groups matched for family size and supplied one group with vitamins and minerals for 5 years. The rate per 100 person years was 0.91 in the control group and 0.16 in the group receiving regular vitamin and mineral therapy. Since the numbers were small the difference was barely significant at the 5 percent level. Getz, et al. reports serum levels of vitamin A and C to be lower in 28 persons

<sup>15</sup> Williams, *Nutrition in a Nutshell*, p. 49.

<sup>16</sup> Dr. Nevin Scrimshaw, one of the leading American nutritionists, has written extensively on this subject. For example, Nevin S. Scrimshaw, "Nutrition and Infection," in J. F. Brock, ed., *Recent Advances in Human Nutrition*, (Boston: Little Brown and Company, 1961).

subsequently developing tuberculosis than in over 1,000 individuals who did not develop this disease.<sup>17</sup>

b. Keller reviewed some of the experiments done with vitamin C. He found that although most of the studies have shown a relationship between vitamin C intake and absences from work, different studies have indicated different doses of this vitamin are needed. Schuenert "saw effects only on doses of as much as 1,000 mg. ascorbic acid per day, while Baker and Winckler (1955) found a reduction in the number of short absences from work on daily supplements of 100 mg. of vitamin C."<sup>18</sup>

c. The International Labor Organization provides an excellent example of the influence of a good lunch on accidents. The UN Food and Agriculture nutrition committee interpreted these results as a reflection of the relation between nutrition and morbidity. In this Canadian study the results before and after the opening of the lunch room per million man/hours worked were determined.<sup>19</sup>

	Number before	Number after
First aid treatment.....	3,000	2,130
Lost time accidents.....	49	42

Note: 3 years average.

## 2. Economic Benefits

As with physical performance, economic benefits were calculated only for the working poor although school attendance will increase, also. Table 9 gives morbidity rates for males and females in the overall work force for age groupings, rates less than those for the poor population. A reduction in these rates will produce gains to society which may accrue to the individual or to the corporation. The increase in productive time will produce gains between \$200 and \$500 million. These benefits are shown in Table 10.

TABLE 9.—MORBIDITY RATE  
[Percentage days lost from work per person per year]

Age	Male	Female
17 to 24.....	0.0132	0.0164
25 to 44.....	.0256	.0384
45 to 64.....	.0532	.0248

Source: U.S. Department of Health, Education, and Welfare. Disability Days: U.S. July 1965 to June 1966. Vital and Health Statistics, series 10, No. 47, GPO, October 1968.

<sup>17</sup> *Ibid.*, p. 376.

<sup>18</sup> Keller and Kraut, "Work and Nutrition," p. 75.

<sup>19</sup> UNFAO, p. 26 from ILO Studies and Reports, New Series, N. 4, *Nutrition in industry*, 1946, p. 41.

TABLE 10.—ECONOMIC BENEFITS MORBIDITY (14 TO 65 OR OVER)

		Non-South		South		Total
		Urban	Rural	Urban	Rural	
MALE						
White:						
	Lower limit.....	\$29,528,854	\$16,154,092	\$14,630,903	\$16,515,769	.....
	Upper limit.....	73,822,110	40,385,230	36,577,258	41,289,422	.....
Nonwhite:						
	Lower limit.....	15,538,199	2,194,976	14,553,254	19,705,350	.....
	Upper limit.....	38,845,498	5,487,440	36,383,136	49,263,375	.....
FEMALE						
White:						
	Lower limit.....	21,337,931	6,571,669	6,166,410	4,126,890	.....
	Upper limit.....	53,344,828	16,429,171	15,416,026	10,317,224	.....
Nonwhite:						
	Lower limit.....	16,548,286	1,387,103	9,856,891	5,863,092	.....
	Upper limit.....	41,370,714	3,467,757	24,642,227	14,657,729	.....
Total:						
	Lower limit.....					\$200,679,659
	Upper limit.....					501,699,148

Note: Numbers may not be exact due to rounding.

## D. Mortality

The loss of years of productive life through premature death results in a significant economic loss to society.<sup>20</sup> The elimination of malnutrition will reduce mortality mainly among two groups, the 328,000 poor malnourished infants and the 837,000 poor malnourished pregnant women. The range of economic benefits from this reduction in malnutrition is between \$66 and \$156 million.

### 1. Relationships

Malnutrition directly increases the mortality rate for pregnant women and, indirectly, for infants. During pregnancy, the fetus drains the mother of many nutrients which in malnourished mothers leads to a higher incidence of maternal mortality. Also, maternal malnutrition is a major cause of immaturity and prematurity, both frequently recurring factors in infant deaths.<sup>21</sup> Between one-half and three-fourths of all children who die in the first 4 weeks of life are premature.<sup>22</sup>

Numerous studies have validated this relationship between improved nutrition, especially increased iron and protein, and reduced mortality in less industrialized countries, but few conclusive studies have been completed in the Western industrialized countries.<sup>23</sup> However, one exemplary study was done in Oslo, Norway, by a famous researcher Toverud.<sup>24</sup> Over 6 years he showed that improved nutrition caused 50 percent decrease in stillbirths, premature births, and infant mortality.

<sup>20</sup> There is a large literature on this subject. For example, see Dorothy P. Rice, *Estimating the Cost of Illness*, U.S. Department of HEW Public Health Service, Health Economic Series # 6, (Washington, D.C.: GPO, 1966).

Another way of valuating the benefits from reduced mortality looks at the waste of money invested in the education, training, clothing, feeding, and health care of the individual. For less developed economies where each individual's future is more doubtful, this "what's put in" approach is more relevant.

<sup>21</sup> Mark Abramowicz and Edward H. Kass, "Pathogenesis and Prognosis of Prematurity," *The New England Journal of Medicine*, 275, (1966): 878.

A premature infant is born with a weight of less than 2500 grams.

<sup>22</sup> *Ibid.*, p. 880.

<sup>23</sup> For example, see Report of a Study Group on Iron Deficiency Anemia *World Health Organization Technical Report Series No. 182*, (Geneva, 1959).

<sup>24</sup> W. A. Krehl, "A Concept of Optimal Nutrition," *The American Journal of Clinical Nutrition*, 4, No. 6, (1956).

<sup>25</sup> Williams, *Nutrition in a Nutshell*, p. 48.

## 2. Economic benefits

The impact of improved nutrition upon maternal mortality will reduce the number of deaths 30-60 percent. Among infants aged 0-1, the mortality rate reduction will be 20-50 percent. The present infant and age-specific maternal mortality rates are found in Tables 11 and 12, respectively.

The range of total economic benefits in present value terms is between \$66 and \$156 million. This is the income which will accrue to these women and children over their lifetimes. Table 13 gives the benefits for each age-sex-race-region cohort for each category.

TABLE 11.—INFANT MORTALITY RATE PER 1,000 LIVE BIRTHS IN 1966

Age	White	Nonwhite
0-1.....	20.15	38.8

TABLE 12.—FEMALE MORTALITY RATE PER 1,000 WOMEN

Age	White	Nonwhite
14 to 24.....	0.6	1.0
25 to 34.....	.9	2.5
35 to 44.....	1.9	5.3

Source: U.S. Department of Health, Education, and Welfare, "Infant and Post Natal Mortality in the United States" vital and health statistics, National Center for Health Statistics, series 3, No. 4, GPO, October 1965. U.S. Department of Health, Education, and Welfare, "Selected Family Characteristics and Health Measures," vital and health statistics National Center for Health Statistics, series 3, No. 7, GPO, January 1967.

TABLE 13.—ECONOMIC BENEFITS MORTALITY

	Nonsouth		South		Total
	Urban	Rural	Urban	Rural	
Infant mortality (0 TO 1)					
White:					
Lower limit.....	\$4,034,225	\$4,443,281	\$1,419,776	\$3,089,504	-----
Upper limit.....	10,085,560	11,108,202	3,549,439	7,723,760	-----
Nonwhite:					
Lower limit.....	19,475,037	70,592	3,841,516	6,372,958	-----
Upper limit.....	48,687,592	176,481	9,603,792	15,932,395	-----
Total:					
Lower limit.....					\$42,746,889
Upper limit.....					106,867,223
Maternal mortality (14 TO 44)					
White:					
Lower limit.....	4,902,049	1,636,225	1,111,187	1,177,888	-----
Upper limit.....	9,804,098	3,272,450	2,222,375	2,355,775	-----
Nonwhite:					
Lower limit.....	9,211,128	496,824	3,709,904	2,714,339	-----
Upper limit.....	18,422,257	993,647	7,419,808	5,428,679	-----
Total:					
Lower limit.....					24,959,544
Upper limit.....					9,919,088

Note: Numbers may not be exact due to rounding.

### E. Intergenerational Effects

The benefits from eliminating malnutrition have been calculated for the poverty population for 1967. It has been assumed that these malnourished persons will be well nourished throughout their lifetime and significant economic benefits of \$13.1 to \$45.7 billion will accrue to society. The effects of better health will benefit future generations, as well, in three ways.

1. The children of healthy parents will be healthier and better motivated.

2. Healthy mothers will have an easier time raising children.

3. The children of the better educated will be better educated through informal education which children receive at home.<sup>25</sup>

The financial gains from better income now have been estimated to be at least 14 percent of this generation's financial gains. For this study, the effects are merely assumed to be 10 percent of the total economic benefits received from better mental and physical performance, and lower morbidity and mortality rates. The range of these benefits associated with intergenerational effect is between \$1.3 and \$4.5 billion. Table 14 sums up all the economic benefits.

TABLE 14.—TOTAL ECONOMIC BENEFITS FROM ELIMINATION OF MALNUTRITION  
[In 1966 dollars]

Source	Lower limit	Upper limit
1. Education:		
(a) Higher achievement.....	6, 278, 236, 418	18, 834, 709, 254
(b) Lower flunk rates.....	122, 889, 901	368, 669, 703
Total.....	6, 401, 126, 319	19, 203, 378, 957
2. Physical performance.....	6, 462, 880, 361	25, 851, 521, 444
3. Morbidity.....	200, 679, 659	501, 699, 148
4. Mortality:		
(a) Infant mortality.....	42, 746, 889	106, 867, 223
(b) Maternal mortality.....	24, 959, 544	49, 919, 088
Total.....	67, 706, 433	156, 786, 311
Subtotal.....	13, 132, 392, 772	45, 713, 385, 860
5. Intergenerational effects.....	1, 313, 239, 277	4, 571, 338, 586
Total economic gain.....	14, 445, 632, 049	50, 284, 724, 446

### F. Total Benefits

The total economic gain to American society from the elimination of malnutrition as quantified, even by the conservative measures used in this paper, ranges from \$14.5 billion to \$50.3 billion. Of course, quantifiable benefits are by no means the only benefits accruing to a well-nourished society, or even the most important ones. The fact that by eliminating malnutrition millions more people could live healthy, normal lives involves countless socio-psychological benefits both to the individual and the larger society.

<sup>25</sup> Theodore Schultz, and Burton Weisbrod have written on this subject.

T. W. Schultz, "Education and Economic Growth," *Social Forces Influencing American Education*, (Chicago: University of Chicago Press, 1961): 74, 75.

Burton A. Weisbrod, "Education and Investment in Human Capital," *The Journal of Political Economy*, 19, Supplement, No. 5, part 2 (October 1962): 117-118.

Not all of these economic benefits will accrue to healthy poor people. These economic benefits are the returns to society in general. A secondary question exists regarding the extent to which the value of any welfare program which eliminates malnutrition among the poor will be reflected in income, and, thereby, in private returns to the poor. Improved productivity from higher physical performance and lowered days missed from work will result partially in gains by the worker and partially by corporate America. Benefits from improved education and lowered mortality will accrue first to the poor.

### III. DOWNWARD BIAS OF ECONOMIC GAINS—REALISM OF ANALYSIS

As was indicated earlier, any study of this kind must be viewed as part science, part speculation. In the case of this paper, the projections may reflect, even at the higher levels, conservative bias on several counts. First, the size of the poor population will necessarily be too small (the OEO figures for poverty in 1967 adjust the Current Population Survey data used here upward by some 7.4 million persons). Second, there are severe problems inherent in the method used to derive our national poverty figures as indicated early in the article. Even the Bureau of Labor Statistics estimates that an urban family of four requires \$7,000 to live decently. Finally, morbidity and mortality rates are taken from Department of Health, Education, and Welfare data and reflect the general population rather than the specifically poor population which will experience higher rates.

In addition to the above, it was assumed in this study that the gains to the society and to individuals would be measured by the present value of lifetime earnings for the *poverty* population. That is, the gains from increased productivity, lower morbidity and mortality etc., would be measured by assuming that the respective population subgroups would continue to function in the same labor markets and to earn only a poverty income.<sup>26</sup> No assumption was made that better-fed people would be better able to break out of poverty. This reflects the socio-economic conditions of the presently malnourished population. Naturally, this may bias total economic benefits downward tremendously.

While no exact numbers can be given for the extent of these biases, a reasonable estimate of their impact seems in order. For the typical benefits analysis, our results must be viewed as minimum (both lower and upper bounds). These results probably underestimate the true economic gains to the society by at least 20–50 percent. This downward bias would suggest that actual benefits from eliminating malnutrition would prove much greater than those presented here.

The reduced costs incurred in connection with treatment of the malnourished are the most important excluded benefits. The reduced costs to schools from lower failure rates would be included in that group. Psychic benefits resulting from better health and education and reduced dependency relationships by a well-fed person also exist.

In addition, external benefits were not discussed. Nutrition programs which would affect millions of people will benefit significantly individ-

<sup>26</sup> Structurally different labor markets face the poor and nonpoor in our dual economy. For example, Fiore, Michael J., "Manpower Policy" in S. Beer and R. Barringer, eds. *The State and the Poor*, (Cambridge: Winthrop Publishing, 1970).

uals other than the direct recipients. For example, the well nourished have a lower tendency to transmit communicable diseases and parasites. Adequate nutrition will help to break the chain of many infections.

A positive bias in the results comes from consideration of political economy. The well known existence of racial and class discrimination greatly handicaps the solution to problems of malnutrition and limits the gains which can be made.

### CONCLUSION

This study has laid out the potential economic gains from eliminating malnutrition in America. By necessity, this analysis is tentative. The lack of adequate information has necessitated a broad estimation (\$14.4-\$50.3 billion) of the possible dollar benefits. Given the biases discussed, I suspect the actual dollar benefits would be closer to the top of the range. Even ignoring humanitarian considerations, the elimination of malnutrition would probably be more beneficial to this country than many other types of projects competing for public funds.

## APPENDIX C

### AN "ALTERNATIVE DIET" FOR THE PREVENTION OF ATHEROSCLEROTIC HEART DISEASE

[From the report by the Panel on Nutrition and Health, *National Nutrition Policy Study, 1974—Part 6*, June 21, 1974.]

Many Americans are seeking ways to conveniently, economically, and pleasantly modify their diets to reduce the amount of cholesterol and fat that they consume. Medical research has shown that these dietary modifications can decrease the amount of cholesterol and/or triglyceride in the blood. Hopefully, this will prevent the accumulation of fatty materials in the walls of the arteries. It will take years to know for certain whether this approach will stop atherosclerosis or retard the progress of the disease. Nevertheless, this way of eating does offer the hope of a healthier, longer life for many Americans.

People do not make abrupt changes in their dietary habits. It takes from 2 to 10 years or longer to make radical and permanent changes in one's manner of eating. Therefore, we propose to approach the alteration of food habits in a gradual manner with each phase introducing more changes toward the alternative dietary pattern desired. The major objective of these changes is to lower the blood cholesterol level.

#### PHASE I

The first phase will be to advise people to decrease gradually the amounts of meat, egg yolks and certain dairy products eaten in order to avoid food items extremely high in cholesterol, saturated fat and total fat and to use substitute products, i.e., margarine for butter, vegetable oils and shortening for lard, skim milk cheeses for whole milk and cream cheeses, and egg whites for whole eggs.

Following is an example of how Phase I may be approached:

#### Eat a Balanced Diet:

1. Increase use of legumes, grains, grain products, fruits and vegetables.
2. Use low-fat animal products—skim milk, egg whites, and rinsed cottage cheese.
3. Be sparing in the use of table salt and "salty" foods.

#### Control Cholesterol Intake:

1. Decrease the amount of meat and shellfish per day.
2. Use skim milk and water ices or sherbets made from skim milk. Avoid egg yolks, whole milk, cream, and ice cream. Egg whites, dried egg whites or products simulating eggs which are made from egg whites are cholesterol-free and perfectly acceptable.
3. Use margarine, vegetable shortenings, and oils instead of butter and lard.
4. Use rinsed or dry cottage cheese in preference to other cheeses.

#### Regulate Saturated Fat Intake:

1. Eat small amounts of lean meat, fish, or poultry per day rather than fatty meats.
2. Use low-fat animal products—skim milk and rinsed cottage cheese—instead of whole milk, cream, and cheese.
3. Use margarine, vegetable shortenings, and oils instead of butter and lard.
4. Limit saturated vegetable fat—cocoa butter and coconut oil—and the products made from them (chocolate, many simulated dairy products, and certain shortenings)

Consider the Total Amount of Fat in Your Diet:

1. Eat small amounts of lean meat, fish, and poultry per day.
2. Use moderate quantities of those foods which are by nature predominantly fat; margarines, shortenings, oils, nuts, peanut butter, olives, and avocado.
3. Use sparingly those foods which are comparatively high in fat by reason of their manufacture: regular salad dressings, potato chips, and similar snack foods, fried foods, "fancy breads", rich desserts.

Restrict calories if you are overweight.

(See Chart I, food guide for the "alternative diet").

## PHASE II

In Phase II people will be encouraged to change their habitual diet further by the incorporation of the recipes developed in "alternative diet product development laboratories" for:

1. *meatless entrees* with emphasis on legumes to ensure adequate protein
2. *baked products* which are cholesterol free and low in fat
3. *appetizers and party snacks* which are cholesterol free and low in fat
4. *meatless sandwiches* and other products used in snack lunches
5. Acceptable substitutes for currently popular high fat, high cholesterol products.

Those recipes will contain little or no salt (sodium chloride and other sodium-containing condiment).

As more and more recipes are developed people will be encouraged to incorporate these into their own repertoire of recipes. At the same time they will be encouraged to use less meat and fat. Since they have been given an array of recipes to use instead of meat this should be a gradual transition from including some meatless meals to many meatless meals to meatless days. This will probably be done in several phases rather than the one as described here initially.

## PHASE III

Phase III will be to develop directly the philosophy of the alternative diet. It is planned to take a historical approach to the consumption of meat. Man has always eaten meat. What he hasn't done is to eat meat everyday, let alone several times a day. Even today daily meat consumption is only possible for the affluent minority of the world's population. It is neither healthy nor economical to consume large amounts of meat everyday. Therefore, we plan to suggest ultimately that people adopt the pattern of eating meat occasionally.

CHART I,--FOODS FOR THE ALTERNATIVE DIET

## LEGUMES

Dried beans and peas and soy-textured protein products.

## GRAINS

Whole grain or enriched breads, cereals, rice and pasta.

## FRUITS

Wide variety including the citris fruits.

## VEGETABLES

Variety including leafy, dark green, red and yellow vegetables, potatoes and other tubers.

## OILS

Liquid vegetable oils, soft stick and soft margarines, vegetable shortening, and nut and seed products.

## LOW FAT ANIMAL PRODUCTS

Lean fish, poultry and meat; skim milk products and low fat or filled cheeses; egg whites.

## APPENDIX D

[Prepared for Assistant Secretary for Health & Scientific Affairs,  
Department of Health, Education, and Welfare, September 1971]

### WHAT SHOULD BE THE DEPARTMENT'S ROLE IN NUTRITION AND DIET PERTAINING TO HEALTH?

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#### POLICY QUESTION ANALYSIS IN RESPONSE TO THE DEPARTMENT PLANNING GUIDANCE MEMORANDUM

PREPARED BY NUTRITION STUDY GROUP

Chairman: Dr. Ogden C. Johnson, Director, Division of Nutrition, FDA.

Members: Dr. Charles U. Lowe, Scientific Director, National Institute of Child Health and Human Development; Dr. Milton Z. Nichaman, Director, Nutrition Program, National Center for Disease Control; Miss Mary C. Egan, Chief Nutrition Section, Maternal and Child Health Service; Mrs. Judith Moore, Special Assistant to Deputy Under Secretary for Policy Coordination; Mr. Sherman Williams, Director, Social and Economics Analysis Division, National Center for Health Services Research and Development; and Miss Margaret Powers, Nutrition Education Specialist for the Office of Nutrition and Health Service, Office of Education.

#### SECTION 1

##### POLICY QUESTION

What should be the Department's role in nutrition and diet pertaining to health?

The Department of Health, Education and Welfare is responsible for those programs that protect and improve the health of the population. Nutrition is an integral part of health and must be treated as one of the basic components of all health maintenance, treatment, and health improvement programs, particularly the preventive health education programs. The goal of Department's health programs is to assure optimal health in our population and to provide such services that those who have health problems have systems available so that their health status can be improved. Nutrition must be an integral part of this goal. Since optimal nutrition is related to both food intake and health factors, many types of action can adversely effect nutritional status. Lack of money, lack of information on foods leading to poor food intake patterns and chronic disease all can cause nutritional problems. The Department's programs in welfare (provision of money) education (assist individuals to understand and use information) and provision of health services (treatment and prevention) should in-

corporate nutrition, since all can and should have a role in achieving optimal nutrition for all Americans as part of the goal of optimal health status.

The issue is not if the Department has a role; the Department has a responsibility to incorporate nutrition concepts into all of its programs, providing adequate resources so that all persons can achieve optimal nutrition and to provide special support for those segments of the population that can not with their own resources achieve optimal nutrition.

In addition to the nutrition role in relation to services and support programs, the Department has a research function both in terms of identifying optimal nutrition and establishing nutritional factors associated with chronic disease problems. This research function has not been presented as an alternative, as this activity is considered essential to better identifying, preventing, and treating health problems. Continued research support is a basic assumption, since without research findings to guide, the service and support program alternatives cannot be directed toward the problems which can be solved with the available resources.

## SECTION 2

### ANALYTIC SUB-ISSUES

There are three sub-issues which are integral to the main issue and must be treated separately.

The first is the development of an effective system of surveillance and monitoring of nutritional status, food intake and food quality, with an evaluation system which will permit review of the data being collected and provide basic information for program planning. Such a surveillance system would also provide a means for evaluating the effect of action programs on nutritional health and food intake.

The components of the surveillance system are in operation but must be organized into an effective reporting system. In addition, an evaluation and reporting component must be established. Most of the alternatives proposed later in this report will prove effective only if a nutrition surveillance system can be organized. A proposal for such a system has been drafted and is presented as part of this report.

The second sub-issue is the need to establish a Departmental nutrition policy that can be used by agencies to guide them in determining the role nutrition should have in programs they administer. It would be advantageous to have a stated nutrition health policy that could be used not only within the Department, but would also serve to guide other Federal and State agencies in their consideration of programs that have direct or indirect influence on the nutritional health of individuals or population groups.

The third sub-issue is closely related to the first two, and requires identifying a mechanism for coordinating the nutrition activities of the Department, as well as a means to disseminate surveillance reports, and develop and present Department policy statements on nutrition. The committee recognizes the problem inherent in establishing an office or focal point within the Office of the Secretary. Consideration was given to establishing a DHEW nutrition coordinating group, with perhaps an Executive Secretary. As a part of such a plan, clearly

identified support for evaluation and planning assistance in the area of nutrition and health, within the Office of the Assistant Secretary for Health would be required.

The committee has prepared proposals covering each of these sub-issues, and presented them as the first three items in the Section on proposed solutions.

### SECTION 3

#### DESCRIPTION OF THE PROBLEM

While food supplies remain more than adequate, evidence exists that problems of inadequate and improper food intake, which results in poor nutritional health, occur in the United States. A review of factors which can adversely affect food intake and food selection, such as inadequate income, population shifts, health problems and changing food intake patterns, indicates that if optimal nutritional health is to be achieved by the majority of citizens, and particularly those with the lower incomes, the Department must exercise its leadership role in nutrition, utilizing the several programs it administers in different ways. A review of the major factors to be considered gives a better picture of where problems exist and how the Department can reduce or eliminate these nutritionally related problems.

##### *A. Demographic changes*

U.S. population will increase, even though the rate of growth has slowed. The population will continue to include a significant proportion of individuals at nutritional risk because of the increased nutrient requirements for growth and development, child-bearing, and the special physiological changes associated with aging. The absolute increase in the number of people will lead directly to an increase in need for health care, including nutrition services.

Changes in family life which can have a profound effect on capacity of families to meet nutritional needs of their members will probably continue. These include the increasing number of births out-of-wedlock; the sizable number of households headed by a woman, and the increasing number of working mothers with children under 18 years of age. Such changes can mean more meals away from home, fewer meals eaten together by family members and more reliance on convenience foods for meals and snack foods for "nonmeal meals."

The increased mobility of the population and a growing proportion of people moving to areas surrounding central cities will have implications for the location of food marketing resources, planning of delivery systems for nutritional care, etc.

##### *B. Nutrition related to health problems*

Many types of nutrition problems contribute to poor health and disability with concomitant loss of productivity and may affect even larger numbers of the population—as adverse changes occur in environment, patterns of living. Many of these problems require dietary modifications for prevention and treatment and thus require the provision of nutrition services, particularly nutrition counseling as an integral aspect of health care. Significant nutrition-related health problems include:

*Obesity:* Statistical data available indicates a substantial prevalence of obesity at every age in both sexes, no matter how obesity has been defined. Not only is obesity implicated in high incidence of degenerative diseases but it can cause various abnormalities in cardiopulmonary or metabolic function, create problems in physical mobility and contribute to psychological disturbances.

*Nutritional-deficiency diseases:* Iron-deficiency anemia appears to be a major problem among all segments of population but particularly among infants, preschool children, pregnant and nursing mothers and the elderly. The 10 State Nutrition Survey found low and/or deficient hemoglobins in 25 percent of persons below the poverty level and in approximately 12 percent of those above the poverty level. Data from the Study of Nutritional Status of Preschool Children in the United States also suggests that iron-deficiency anemia is not uncommon among preschool children regardless of socio-economic status, although prevalence is probably greatest among the poor. Biochemical findings in these two studies indicate that low levels of other nutrients such as vitamin A, riboflavin and ascorbic acid may also be cause for concern, particularly among the poor where larger numbers of persons are affected. Data from the 1965 USDA Food Consumption Surveys of over 14,000 individuals drawn from 6,200 households in the spring survey also indicated that sizable numbers had limited intakes of some nutrients, e.g., iron, calcium and riboflavin.

*Dental Disease:* The prevalence of dental disease in the population today is almost totally universal. Dental caries, periadontal disease, and congenital dental defects contribute in no small measure to the nutritional-related disease patterns. Unheeded and untreated, dental disease is progressive and measurable and is directly related to the nutritional health of the individual.

*Infant Mortality:* While infant mortality rates are improving slightly, they vary greatly among the States and between the low rate for white and orientals and a high rate for blacks and American Indians. Infants with low birth weights are subject to higher than average morbidity and mortality rates. Relatively more babies with low birth weight were born to mothers who were very young, other than white and lived in urban areas. Improved nutrition can increase the probability of an improved outcome of pregnancy thus reducing pregnancy wastage. Recognizing the influence of maternal nutrition on reproductive efficiency, the Committee on Maternal Nutrition, NAS recommended that the importance of adequate diet from the mother's own birth through growth and reproduction should be reaffirmed and that dietary intake and food habits of pregnant women should be reviewed, and appropriate counseling should be provided.

*Chronic Health Problems:* Nutrition has a significant role in the prevention and treatment of many of the chronic diseases which affect large numbers of all ages in the American population. These include *diabetes* found without complications in one out of every 1,000 registrants upon initial assessment in the Comprehensive Health Services projects for Children and Youth in 1970 and limiting activity of over one-half million persons according to National Health Survey data.

*Cardiovascular disease* which continues to be the leading cause of death with over 700,000 number of people dying of coronary heart disease/year. Risk factors associated with this disease include diabetes,

hypertension, obesity, and lipid abnormalities which may get their start at a very early age—even infancy. At the present time, management of patients with hyperlipedemia is usually focused on dietary modification as the first step in treatment. Not only is diet counseling required, but changes in food production, processing and regulations may be necessary as well as substantial nutrition education programs directed to all those responsible for establishing sound eating patterns and dietary habits early in life.

*Inborn Errors of Metabolism:* It has been estimated that inborn errors of metabolism have a high incidence rate in the newborn population. Increasingly sophisticated laboratory tools and developments in genetics are now extending diagnostic horizons of an array of metabolic diseases many of which require immediate and long term dietary management to promote growth and development and prevent disability.

*Alcoholism and Drug Addiction:* Poor nutritional status is frequently a secondary effect of alcoholism and drug addiction and may require nutritional care and rehabilitation. According to the Federal Bureau of Narcotics, as of December 31, 1968, there were 64,011 active narcotics addicts reported in the United States. Of these, 16.5 percent or 10,609 were females. Infants born to addicted mothers develop withdrawal syndrome which affects appetite and feedings. It is estimated that there are 9 million problem drinkers in America.

### *C. Changing income and support programs*

In 1970, the median income of the American family was \$9,870. However, millions of Americans are still poor and in 1970, there were about 25.5 million individual Americans or 13 percent of the population, living in poverty. Nearly one-third of these were children under 18 years of age. Far too many Americans were still finding it difficult to obtain a nutritionally adequate diet as well as the other basic essentials of life.

At the present time, the policy of the Administration is to eliminate the food stamp and commodity distribution programs and substitute cash payment to meet family nutritional needs. This will mean that the family, itself, will then be the major determinant of amount of money spent for food.

Present rules and regulations for AFDC now require that welfare services must provide for the particular needs of families and children, including assistance to parents in money management including consumer education, child rearing, homemaking and housing problems. Although there is limited information available about the actual extent and effectiveness of education programs provided through welfare services, some welfare agencies have developed helpful programs which provide this kind of assistance to large numbers of the families receiving public welfare, e.g. *CHANCE* (Classes in Home Arts, Nutrition and Consumer Education) offered by the City of New York Department of Social Services to improve mothers' standards of household management, health and family care, etc.

In *H.R. 1 The New Social Services Provisions (Title V)* defines "services for any individual receiving assistance to needy families with children or receiving services to the aged, blind, and disabled to include nutrition services, educational services, home management,

etc." Additionally in Title XXI of H.R. 1 the Opportunities for Families Program and Family Assistance plan would appear to make provision under Supportive Services for inclusion of nutrition services as a part of health care in order to permit individuals to undertake manpower training and employment.

At the present time the agencies of DHEW (CSA and APA) responsible for administering public assistance and social services programs have little or no nutrition and home economics staff to develop the necessary guidelines and materials, and to evaluate and approve plans projects which provide technical assistance required by the State and local social service agencies. In addition, little in the way of experimental programs is underway by the agencies.

#### *D. Inadequate nutrition services in health programs*

It has been assumed that nutritional guidance would be received as part of health care. However, there is inadequate provision for attention to quality and quantity of nutrition services in present and evolving health delivery systems.

Guidelines and standards for the nutrition component of some of the present health programs do exist, e.g., Maternity and Infant Care Projects and Children and Youth Projects under Title V, Medicare and Medicaid under Titles XVLLL and XIX.

However, many of existing health programs administered by DHEW give only limited attention to the nutritional component in their policy and guideline material. For example, family planning grants under Public Law 91-572 could provide a strategic framework in which to deliver nutrition services to women in the child-bearing years, yet they give only limited attention to nutrition services as an integral part of health care. Regional medical programs could provide an excellent vehicle for training providers of nutritional care and comprehensive health planning grants offer a unique opportunity to obtain basic planning data which could provide for more sound planning of nutrition services, but there is no nutrition component in guidelines and policies for these grant programs.

Dietetic or nutrition services in hospitals and extended care facilities is required for certification under Medicare. However, nutrition personnel are *not* eligible for payments as providers of health care services. Deficiencies in dietary departments continue to rank fifth or sixth on list of major deficiencies in specified conditions of participation in U.S. Hospitals and Extended Care Facilities certified under Title XVLLL. This indicates a need for dietary consultation to many of these certified facilities.

Neither HMO's or present national health insurance proposals provide for nutrition service as specified health care benefit nor do they give adequate consideration to the role of nutrition personnel as direct providers of care to patients, as providers of technical consultation to care facilities and as trainers of providers of health care. Many of the models being used to develop HMO's etc. have had a limited nutrition component and made little, if any, use of nutrition personnel to deliver nutritional care. According to information compiled by the AMA in 1965, only 224 dietitians (0.4 percent of all allied health personnel involved) were listed as being employed in group practices in the United States. Nutritional service must be a reimbursable item in health care if it is to become a part of the health care system.

The lack of basic planning and management data, necessary for orderly development of plans for and evaluation of the nutrition component of health services makes it difficult to establish performance goals. Some cost figures are available from the Comprehensive Health Services Projects for Children and Youth, but little concrete, factual information is available on kinds and location of nutrition manpower, desirable ratios of nutrition manpower to population and to case load, comparative cost of various delivery systems of nutritional care and cost benefits.

#### *E. Changing patterns in child care and child development services*

Day care and preschool programs for children of all ages have been increasing as a result of new legislation, increase in working mothers (projections for 1985 indicate that 6.6 million age 20-44 with children under age 5 will be in labor force), greater recognition of benefits of early educational experience for some children, etc. Since adequate nutrition is essential for sound growth and development of children, nutrition and food services are considered an important component of such programs and funds can be used to provide for such services.

Guidelines and standards for many of the present programs (Headstart, Follow-Through, Parent and Child Centers, Federal Inter-agency Day Care Requirements, etc.) give some attention to the provision of appropriate meals and snacks to help meet the nutritional needs of children and nutrition education for staff parents, and children. However, the guidelines are so broad and general that they permit a wide range of practice. State health and welfare and education agencies have provided technical assistance in nutrition to many of these day care and preschool programs as a part of their licensing and consultation responsibilities, however, the size of their nutrition staffs has been too limited to meet the extent of need. Many of the centers and programs operate on limited budgets and with untrained food service staffs. The combination of all of these factors means that there is room for considerable improvement of the food and nutrition component of these programs.

H.R. 1 will expand day care services significantly to enable adults to undertake or continue in training, employment, or vocational rehabilitation under FAP. If other legislation pending e.g., Brademas Bill, etc. is enacted, child care and child development services will be further extended.

At the Federal level, the major agencies responsible for these programs, e.g. OCD, CSA, etc. have at the present time limited or no nutrition staff to give adequate attention to this important component of these expending programs and services. Nutrition Consultants in the central and regional offices of MCHS, HSMHA have provided some consultation to these agencies as their workloads permitted. However, no "formal" arrangements regarding sharing of staff, etc. exist between agencies and this has meant that input has not always occurred at most strategic time in planning and program development.

#### *F. Failure to support manpower requirements for nutrition services*

The failure to provide adequate funds and manpower for nutrition services also reduces the outreach of health services in the area of nutrition.

The major support of public health nutrition services in State and local health agencies continue to come from Federal sources and matching State monies, primarily Title V funds. While there are about 500 nutrition positions budgeted in State and local health agencies, the nutrition staffing of many of them is still inadequate to deliver quantity and quality of nutritional care needed, e.g., three State health departments do not have even one position budgeted for a full-time public health nutritionist to give leadership and direction to the development and implementation of nutrition services in the total public health program; five State health agencies budget for only *one* public health nutritionist to provide coverage for the entire State.

Positions for nutrition personnel to deliver nutrition services to low-income mothers and children and their families through the Maternity and Infant Care Projects and Comprehensive Health Services Projects for Children and Youth (Title V) are being reduced as funds become limited due to rising medical costs and "fixed" appropriations.

In relation to manpower, definitive data is limited. On basis of program experience many health officials feel that data such as the following indicates a shortage of nutrition manpower which may require more attention in health manpower legislation and its implementation. The vacancy rate in nutrition positions budgeted in State and local health agencies continues to be between 15-20 percent. In an informal (1966) study of Projected Needs for Public Health Nutritionists at State, city and county levels replies from 37 States indicated that present supply would need to be increased by 100 percent. A wide range in ratio of dietitians and nutritionists to population exists in the States, e.g., Utah with 6/100,000 population vs. Massachusetts with 22/100,000. Forty-five States have less than 20/100,000 population. Using a ratio of 1/50,000 population, division of Allied Health Manpower computed that about 4,400 community nutritionists would be needed. PHS-AHA surveys indicated that many openings for dietitians are unfilled. Surveys indicate that an estimated 20,700 dietitians will be needed in hospitals in 1975 compared to approximately 13,000 presently employed.

*G. Failure of educational programs to effectively reach target population, or bring about positive nutritional health changes*

Dietary behavior is affected by psychological, cultural, environmental and economic factors more than by intellectual knowledge about nutrients and health. Nutrition education, therefore, needs to gear itself to *behavior* rather than just intellectual knowledge about food and nutrients. This is now being done in the context of health education and home economics, curricula and needs to be expanded for inclusion in school food programs, social studies, economics, and other appropriate context areas. Behavioral objectives in nutrition education also need to be done for parents and school staff so that the learning can be reinforced outside the classroom as well as inside.

In the School Health Education Study (1960-63) schools reported that nutrition was an area of emphasis for instruction by the majority of all school districts in every grade K-12: *and yet* it was found to be the area ranking lowest in comprehension among 12th grade students.

Professionals and paraprofessionals who are in a position to have an impact on the nutritional health of people, such as social workers, teachers and medical personnel, are poorly informed about the relationship of food to health or about how to impart this information to their patients/clients in practical terms. "A need for improvement in nutrition teaching is readily acknowledged by many medical schools. . . . The nutrition teaching provided by the various medical specialties is necessarily fragmented; and sometimes superficial."<sup>1</sup>

Food technology and knowledge about nutrition steadily advance, while methods of educating people about these developments remains stagnant. As a result, there is considerable confusion and ignorance among the general public. Food faddists as well as advertisers thrive when people are not equipped to evaluate the myriad messages which they read or see on TV. This ignorance extends to those responsible for policy decisions concerning nutritional health programs and for the food that is made available in the marketplace.

There is fragmentation of effort to educate through Federal programs. OE has more than nine offices administering programs having potential for nutrition components. There is little coordination of these efforts. This fragmentation is duplicated in school systems and the community:

The National School Food Service and Nutrition Education Finance Project found in its survey of school districts no discernible pattern of nutrition education. "... a concluding but guarded opinion was that nutrition education in the nation's schools exists more in word than in fact."<sup>2</sup>

HEW has not taken the leadership role in providing guidance for the development of nutrition education programs. HEW is responsible for leadership in improving the nation's health. Through the recommended surveillance and monitoring system, HEW should provide guidance for nutrition education programs to support optimum health. HEW must assume responsibility for leadership for defining nutrition education, reviewing nutrition education in relationship to health status, food technology, new knowledge about nutrition, new methods of education, and communication as well as for influencing policy which governs child and family food programs.

"There is a greater and greater recognition that the scope and the techniques of nutrition education need drastic review."<sup>3</sup> HEW should assume leadership in this review to relate it to health of the American people.

## *II. Changing food supply and influence of "new foods" on nutrient content of diets*

The utilization of foods have changed considerably in recent years and food consumption information as well as recent studies on the utilization of formulated and fabricated foods, suggest that traditional nutritional patterns no longer can provide adequate nutritional support to all segments of the population. An increased dependence

<sup>1</sup> Report of White House Conference on Food, Nutrition and Health. Appendix C. Panel IV-2, p. 167, 168.

<sup>2</sup> National Educational Finance Project, Special Study No. 9, Sept. 17, 1970.

<sup>3</sup> Summary of the Follow-up Conference on Food, Nutrition and Health from the Report of the Follow-up Conference on Food, Nutrition and Health held in Williamsburg, Va., Feb. 5, 1971, p. 25.

on processed foods and the development of fabricated food analogs which will replace traditional foods has potential for reducing the quality of diets. Such fabricated foods because of their price and ease of use, are considered important products for institutional feeding and for feeding programs associated with the provision of health services and social service programs.

The changing food consumption patterns have also made obsolete some of the food fortification and improvement practices initiated by regulations over the last 20 to 30 years. In the past such developments have been initiated by groups outside the Food and Drug Administration. Fortification action has been based on individual reports and directed towards specific health problems. Changes in dietary patterns have reduced the effectiveness of the fortification programs. Because of the lack of basic information on food intake patterns, it has been exceedingly difficult for outside groups to effectively request changes. A more aggressive program utilizing food fortification initiated on the basis of maintaining optimal nutrition in the population is one means of maintaining a better diet in the country.

The current activities of the Food and Drug Administration to establish the nutritional quality of processed foods, and to provide the consumer with labeling to identify the nutrient content of foods is a small start in the direction of improving the diets of all Americans by directed improvement in the nutrient content of many foods in the marketplace.

## SECTION 4

### ASSUMPTIONS

1. It is the assumption of this study committee that DHEW recognizes nutrition as basic to health; nutrition education as a basic component of health education and thus an integral part of any preventive health program.

2. Federal dollars for the nutritional component of health services programs will continue to be a part of the *general* health dollar rather than a categorical item. If special revenue sharing is implemented, nutrition services would still be included as an integral part of the Federal dollar for health.

3. Nutritional care provided as an integral part of primary, secondary and tertiary health care can (a) contribute to the maintenance and improvement of an individual's health, productivity and ultimate economic and social well-being: (b) often defer and modify the development of a disease state so that a clinical condition does not develop and the need for medical and other remedial services which are more expensive types of care is reduced.

4. Some form of family health insurance and improvements in health financing programs will be implemented, e.g., FHIP, HMO's, etc. in near future.

5. That some type of Family Assistance Program will be enacted.

6. That legislation designed to improve the distribution and increase the supply of health personnel will be enacted and will result in more health manpower available to provide nutritional support in health programs.

7. That the educational system is in process of change and its goal of serving children and families better will be supported by programs which will be effective in changing and improving food habits.

8. That basic support for nutrition research will be available, and that nutritional aspects of chronic diseases, growth and development, and optimal health will be considered essential in health research planning.

9. That there will be public interest in and acceptance of nutritional care as a part of preventive health services.

10. That an adequate supply of food is available on a national level.

## SECTION 5

### PROPOSED SOLUTIONS (ALTERNATIVES)

In considering the various problem areas, it is apparent that many of the alternatives presented should be considered as options covering limited aspects of the main issue. The proposed activity in regard to providing nutrition service to one segment of the population should be viewed separately from activity suggested as a means for improving food purchasing practices as part of money management. In other cases a series of activities may be required covering several program areas. These are not considered alternatives, but are grouped as options within a single alternative solution.

It was impossible to develop sufficient information on all factors related to each of the alternatives. The committee feels that more complete analysis would be helpful, and calls attention to proposals, which are presented as separate statements before the alternatives, which would establish a working group which could conduct the more extensive evaluation.

There is a continued need for research to better define the nutritional significance of a number of areas such as diet and heart disease, nutritional status and learning ability, and nutritional requirements under stress conditions. Basic research support must continue, and the committee has assumed that this will be true. The concern thus is that mechanisms are available to utilize what we already know, and to put new knowledge into practice as quickly as possible; be it in treatment of disease, education to prevent nutrition problems, or changes in the fortification of foods.

### PROPOSAL 1

A nutrition monitoring and surveillance system should be set up to continuously collect, analyze, and distribute nutritionally-related data now being obtained by all Federal nutrition programs' research and service projects, and by national surveys. An integral part of this system would be the data collection and distribution activities of the National Center for Health Statistics as they involve nutritionally related material.

#### *Problem*

The objective of a nutrition monitoring and surveillance system is to provide basic information for program planning and offer a con-

tinuous ongoing evaluation of the effectiveness of such programs on both a national and local level. The data collected and evaluated by such a system should be related both to population groups at high nutritional risk (monitoring) and to the general population (surveillance.)

At the present time there are many real and potential sources of data related to nutritional status. The nutrition survey being conducted as part of the ongoing Health Examination Survey (HANES) by the National Center for Health Statistics will provide biannual data on the nutritional status of a random sample of the American population. This data will provide a basis for broad national nutrition programming and evaluation. In addition to this activity provision must be made to monitor the nutritional status of special population groups and in special situations (e.g., migrants, American Indians, pregnant women, iodine status, etc.). Other data, available in a variety of agency structures, should be brought together in such a way as to afford a basis for identifying immediate program needs and continuous evaluation of program effectiveness, particularly for use among special population groups.

Present nutrition data collection has become cumbersome in its sophistication and there is a need for simpler screening examinations that will promote a nutrition component in comprehensive health screening and in office practice. This present complexity, plus a lack of service-orientation of the data, is not responsive enough to the needs of the health care delivery systems.

The solution appears to be a comprehensive nutrition surveillance system to re-define continually the incidence of deficiencies by multiple parameters, to constantly monitor the degrees of risk of specific population groups and to supply practical data bases by which to measure program effectiveness. Such a system should be developed under the constraint of carefully determined assumptions, some of which would include:

1. New health care delivery systems are imminent and should be planned for as providers and consumers (for evaluative purposes) of nutrition data.

2. The system will monitor multiple parameters and data resources and collect, collate, and report data on a continuous basis.

3. Initial determination of system objectives will be made together with periodic review by a committee. This should include the determination of the simplest and most inexpensive indicators of nutritional status needed to provide minimal useful data.

4. The system will include data from as many available sources as possible including Federal and State nutrition programs, national surveys, consumer studies, insurance benefits, vital statistics, clinical record, special population studies, epidemiologic investigations, food consumption data and data on food analysis and quality control of food handling.

### *Program*

The staff, consisting of at least statisticians, system analysts, programmers, nutritionists, physicians, and professional writers would produce a monthly or bimonthly report of nutrition status of high-risk populations, incidence of related disease, and socio-economic cor-

relations. Such surveillance reports would be given wide distribution to welfare, health, agricultural, industrial, and political agencies at all Government and academic levels. Early detection and warning of critical nutritional profiles would be provided for specific populations and geographic areas. Special data requests would also be accepted.

A review committee of data consumers would regularly screen out impractical and unproductive data processing, while making general policy recommendations concerning handling of specific requests.

There are additional increments of data collection and review available to supplement the basic proposal. These include:

1. Collection of consumer data such as participation in federally financed programs (e.g., free school lunches and breakfast, summer programs, Headstart, commodities distribution, food stamps, and "Meals on Wheels"). Random sampling of commercial food production, processing and sales should also give better insight into the relationship of eating patterns to health.

2. Vital statistics (morbidity and mortality records) from State Health Departments should be assessed and used as one measure of nutritional status of special population groups. Also there is much important data that could be obtained from health departments sponsored clinics, screening programs, institutional licensure, and food inspections.

3. Third-party providers have data that would be invaluable for nutrition surveillance. A pilot effort with the Medicaid files of several States, later adding other States, Medicare, Social Security (death benefits), VA (pensions), and private insurance companies data would be useful.

4. The collection of clinical data from hospitals and clinics, beginning with Federal facilities, and subsequently other public and private institutions. It would suffice to sample on a random basis, with data coming from each facility for a specified time period. An extension of this approach would involve physician reporting, especially pediatricians, general practitioners, and internists. A scheme of rotating periodic intensive reporting would be effective, particularly if coupled with the development of simple screening techniques.

Surveillance would be enhanced if nutrition screening and reporting were made requirements for IIMO funding, as well as for grants such as Neighborhood Health Centers, Model Cities, etc.

5. It is inevitable that some necessary data will be available only if collected by the staff. The piggy-backing of nutrition data collection on other surveys, the use of para-professionals (USDA Extension Service aides, VISTA, etc.) and the stimulation of national volunteer projects (civic clubs, voluntary health agencies, churches) could, with guidance, contribute new valuable data.

Ultimately, there must be teams consisting of nutritionists and epidemiologists to investigate and monitor certain problem areas directly, particularly among high risk populations.

#### PROPOSAL 2

The OS-DHEW should establish a nutritional health policy to be a guide in the planning, developing, and carrying out programs—health, social service, welfare and education—for which the Depart-

ment is responsible. The policy statement should address the Department's responsibility for assuring that optimal nutritional health can be achieved by all segments of the population, and serve to direct attention to the need to consider nutrition support in the development of all health care and education programs.

Various components of the committee's report provide specific aspects of a nutritional health policy:

1. That an important aspect of the health goal of the Department should be optimal nutrition for all members of the population.
2. That nutritional services are an integral part of health services and should be supported in and by all health service programs.
3. That preventive health education programs should provide strong emphasis on nutrition education.

### PROPOSAL 3

Establish a Department of Health, Education, and Welfare Nutrition coordinating group, with representation from each agency, to exchange information on the nutritional aspects of programs, coordinate activities which involve several agencies, provide guidance for long term program planning, and prepare each year for the CS a review statement on nutritional health problems based on food and nutrition surveys, program evaluation and reports, and surveillance reports (see Proposal 1). The review statement would serve as a guide to evaluate policy and general program objectives. To provide support for the committee, it is recommended that a person in the Office of the Assistant Secretary for Health be assigned to the committee to serve as an Executive Secretary, assisting the group in developing appropriate review documents, and proposed policy statements.

### PROVISION OF NUTRITION SERVICES AND SUPPORT

#### ALTERNATIVE 1

Since nutrition, home management, and related services are essential to maintain or restore families to self-supporting status and improve family life, and since social services provide a vehicle for the delivery of such to strategic population groups, DHEW should:

(1) Make adequate provision for nutrition and home management services in rules and regulations issued to implement H.R. 1. This would provide for and support State and local agencies allocating some of the funds for social services to the area of nutrition and home management.

(2) Provide the necessary leadership and technical assistance in nutrition and home management by including nutritionists and home economists in the staffing pattern for the central and regional offices of the new agency to be established to administer FAP.

(3) Include training for positions in nutrition and home management as a part of the manpower or work training programs.

(4) Develop immediately several R and D Demonstrations involving various methods of delivering nutrition and home management services to needy families and evaluating their cost and effectiveness which could be used as models including paid inservice type training

for recipients. There is an urgent need for such efforts to begin immediately, so that results can be used in implementing H.R. 1 when it is enacted.

(5) Develop guidelines to State Public Welfare agencies for a program of Social Services including use of aides, homemakers, nutritionists, and home economists to counsel and educate FAP recipients in areas of nutrition and home management, including money management and consumer education, and ultimately influence nutrition and health status of the family.

#### ALTERNATIVE 2

OCD should take steps to insure that Federal guidelines and standards for child care programs and services make provision for food and nutrition services which are adequate in quality and quantity. Such guideline material should encompass use of funds for food and nutrition service, supervision of food and nutrition services by qualified personnel, nutrition assessment as a part of health evaluation, nutrition education for staff, parents, and children and actual provision of food.

Nutrition Consultants in the central and regional offices of MCHS, HSMHA have provided some consultation to these agencies as their workloads permitted. However, no "formal" arrangements regarding sharing of staff, etc. exist between agencies and this has meant that input has not always occurred at the most strategic time in planning and program development. Since nutrition consultants of MCHS already have on-going working relationships with many of the State and local health agencies responsible for licensing and providing technical assistance to child care agencies, and since nutrition services are an integral part of child health services, there may be merit in developing a formal arrangement with the MCHS for provision of nutrition consultation to OCD central and regional offices.

#### ALTERNATIVE 3

Providing for more adequate delivery of nutrition services as an integral component of health programs and systems by improved staffing of Federal, State and local health agencies with nutrition personnel who can place, develop and provide such services.

The Committee proposes that one way to bring about the above change would be by making nutrition personnel eligible for payments as providers of health care services and stipulating dietary counseling services as an eligible service for third party payment in national health insurance plans. This would require that *legislation* identify nutritional care as an essential component of preventive health care services and stipulate dietary counseling services as an eligible service for third party payment.

While there is some information available on cost of the nutritional component of care per registrant in the C&Y projects (e.g., total cost per registrant for the provision of comprehensive health care services in fiscal year 1969 was \$189, 1.42 percent or \$2.69 per registrant was cost of nutritional functional area) more cost data will be needed in order to establish appropriate fees for provider services.

Two additional alternatives were discussed for funding additional personnel:

(1) "Earmarking" a proportion of health funds to Federal, State and local health agencies (to include public health agencies, HMO, hospitals and other health care facilities) for support of nutrition services.

(2) Providing special or formula grants to State and local health agencies for nutrition services using a formula based on population. This alternative would not be in keeping with plans for revenue-sharing and might tend to fragment or separate nutrition services from total health care planning and service.

Both of these appear to be out of step with current programs to provide health care support and the committee does not offer these as possible solutions.

If provision is made for additional support for manpower to provide nutrition services, there will be a need to support training in nutrition for health care personnel. The committee made the assumption that training support would be available, recognizing that such support is currently limited. There was insufficient information available to develop definitive guidelines for staffing different types of health delivery systems. There is a need to test various staffing patterns for delivery of nutrition service in order to provide information on effectiveness, cost, type of personnel, and desirable ratio of manpower to population served.

As a part of this basic alternative, it is suggested that public health nutrition personnel employed under the Emergency Health Personnel Act could be assigned to selected areas of the Nation where there is a serious maldistribution and lack of nutrition personnel, particularly rural and urban areas. Such personnel could be deployed to city and county health departments and other existing health programs and agencies where they would work with other members of health teams.

#### ALTERNATIVE 4

The Assistant Secretary of Health and Scientific Affairs should require that standards, regulations and policies for health programs developed and administered by DHEW make appropriate provision for nutrition services adequate in quality and quantity.

That the administrator(s) OASPE and HSMHA provide for more nutrition input in planning, developing, and evaluating Health Care Programs and systems in order to assure that nutrition services will be included in such programs and systems.

The committee was not able to develop this recommendation in detail, but proposes that basic information needed for program planning could be obtained by requiring that provision be made for nutrition services in the HMO's (and Family Health Centers) which will be developed with Federal planning grants. This would permit exploration of various methods of providing nutritional care and developing cost-benefit data, etc., which could be used as a base for further planning.

In addition, a mechanism should be developed for involving nutrition personnel in Federal, State and regional health planning teams, task forces, agencies, etc. so that nutrition services are adequately considered in program planning and evaluation efforts.

## ALTERNATIVE 5

The administrator of HSMHA should consider staffing regional, area, and central offices of HSMHA agencies with at least the minimum number of public health nutritionists needed to plan the nutrition component of evolving health programs and systems; to develop necessary nutrition guidelines, standards and regulations and enforce them; to evaluate and approve nutrition component of plans and projects and to provide technical assistance to health care providers. To bring staffing level up to two positions/region would require an additional eight public health nutrition consultant positions. An additional eight would be needed to bring staffing pattern up to two per area office of the Indian Health Service. Appropriate nutrition staffing of the central office HSMHA should also be developed. The committee feels such support would be required if the alternatives regarding the provision of nutrition services as part of health care activities is to be adequately developed at the local level.

## ALTERNATIVE 6

The Office of Telecommunication Policy, ASPE should explore all aspects of communications as a means for increasing nutrition education outreach to technical personnel and consumers.

In order to reinforce and extend services of nutrition personnel, greater use could be made of communications technology and programmatic content in nutrition could be developed. Specific attention should begin in the National Health Education Foundation, which was stimulated by the administration and which is a channel for accomplishing some of this activity, as would the Regional Medical Programs and Area Health Education Centers. This activity should also be considered in terms of teacher training.

This mass media approach would not completely replace need for well-trained nutrition manpower since many dietary management problems require individualized counseling with periodic reevaluation over an extended period of time.

## EDUCATION

## ALTERNATIVE 1

In line with the assumption that nutrition is part of any preventive health education program, the committee feels that the Commissioner of OE should identify health, nutrition and mental health education as a priority in support of the President's preventive health program.

This action would be supportive of the Commissioner's priority on education for careers, since beneficial health behavior, integrated by the time a child finishes secondary school, would provide him with basic information and decisionmaking ability to act responsibly about his own and his community's health.

It would also support OE goals of equality of Educational Opportunity:

- a. disadvantaged
- b. handicapped

### *Educational Reform*

- making better use of schools as the delivery system for strong preventive health education programs based on behavioral objectives, would go a long way toward solving nutrition related health problems listed in Section 3(B), since they could reach all children and their parents over an extended period of time.

### ALTERNATIVE 2

*Fund a project to develop guidelines for nutritional education (pre-school-12) for students, parents and staff based on behavioral goals. (Please read the outline of project proposal which is attached.)*

Such guidelines would help to define the broad concept of nutrition education in terms that would make obvious the need for all children to integrate basic information and behavior about food and about community responsibility for nutritional health into health education. Thus, whether a high school graduate is going to become a homemaker and mother, a wage earner to support a family, a supermarket manager, a member of the health profession, a food producer, an industrialist, a teacher, a legislator, a social worker, an advertising executive—whatever—he will have basic knowledge he needs integrated to allow him to make wise decisions about his own and his community's nutritional health.

It is expected that the guidelines would lead to solutions of some of the other problems identified in relation to nutrition education because they would suggest the need to establish and strengthen nutrition components of health education programs. Examples of how some OE programs might be strengthened follow:

#### *Vocational Education*

- might expand some parts of its programs to reach more boys as well as girls in secondary school.
- by providing teachers who have a strong food and nutrition background to act as resource to elementary school teachers.
- by helping to provide training in food and nutrition for para-professional staffs of schools, and pre-schools.
- for adult programs and other institutions the guidelines would suggest ways of coordinating parent and child education programs so the learning which takes place at school can be reinforced at home.

#### EPDA

- might add nutrition/health components to some of its teacher training programs.
- by linking with USDA Child Nutrition funds for nutrition education by linking with Area Health Education Centers. The pending legislation has potential for providing in-service training to school personnel. An advantage of this coordination is that such nutrition education would be health related.

#### BLET

Projects which support the goals of nutrition and education could be identified and funded in coordination with training projects for teachers, students or parents.

These are merely examples; other programs could make use of the guidelines in helping to find ways to meet the Commissioner's goals.

### OCD

The HEAD START materials for nutrition would be compatible with the proposed guidelines. Both would be helpful in planning programs in Day Care. To strengthen Head Start nutrition components, training could be accomplished through vocational education, Health manpower programs and the proposed area Health Education Centers.

It is expected that the guidelines, by focusing on preschool-12, would be helpful to *USDA child nutrition programs* and to educators in becoming aware of how the food service and instructional services can complement each other in a food nutrition/health education program.

Consideration of research and development projects needed to test the effectiveness of nutrition education would also be made by the guidelines, as would utilization of manpower to implement effective nutrition education programs in schools and with parents as part of preventive health education programs.

### OUTLINE OF PROJECT PROPOSAL FOR GUIDELINES FOR NUTRITION EDUCATION

We now realize that nutrition education must include more than learning facts about foods and nutrients . . . just as with health education, generally, nutrition education must concern itself with behavioral changes. These changes involve the integration of thinking, feeling and action, as illustrated by the following examples:

- Whether an 18 year old thinks his body is worth taking care of depends upon his *self-concept* from early childhood.
- Whether he is concerned about others, their hunger and health, may depend upon whether *he feels cared for*.
- Whether he chooses foods for himself and his family which contribute to nutritional health may depend upon his own eating *experiences* he had as he was growing up.
- Whether he makes sensible decisions about foods will depend upon his *ability to think* and his *confidence* to be discriminating.

Because the goal of nutrition education is *to affect the behavior* of the student towards himself, his family and his environment, decision making and ability to make value judgments are equally, if not more important, than content. The process to which a child is exposed in pre-school-12 will greatly influence his (dietary) behavior in adult life.

### *The Overall Problem*

- Changing technology, new knowledge about nutrition, new methods of education, urbanization with resultant dependence upon economic and political systems for meeting basic (food) needs, provide the basis for a statement in the summary of the follow-up conference on Food, Nutrition and Health. "... There

is a greater and greater recognition that the *scope* and the *techniques* of nutrition education need drastic review."<sup>1</sup>

*Purpose* of the Proposal is to fund a project to review the scope and techniques of nutrition education and to prepare guidelines for nutrition education for *students*, preschool-12, *their parents*, and *school staff*.

*Method*: Select a committee to:

- Redefine the goals of nutrition education in terms of desired student and parent behavior.
- Review the present scope of nutrition education for students, their parents, and school staff.
- SHES and other curriculum development projects which have nutrition components, as well as HEAD START and Child Nutrition programs will be among the materials reviewed.
- Identify the gaps between where nutrition education is and where it needs to be to achieve stated goals.
- Prepare guidelines for students pre-school-12, parents and staff learning in the area of foods and nutrition. These will include measurable objectives for all three target groups.
- Identify ways to achieve these objectives through the educative process in both a traditional school system and in a changing, learner-centered system of education.

The *Committee* will include students, parents, teachers, nutritionists, and instructional systems specialists.

*Time Frame*: a project proposal can be developed by November 1, 1971. It is recommended that *Funding* be through ESEA, Title IV. It is estimated that the project will cost no more than \$50,000.

*Alternatives if Funded*: through Title IV, ESEA.

- (1) Nutrition and Health Services can implement the project.
  - A full time secretary would need to be added to the staff.
  - Other than that, all cost would be direct for consultant fees, conferences, printing.
- (2) A University could carry out the project under monitoring by ESEA Title IV.
  - Costs would probably be a 50% greater due to overhead.

## IMPROVEMENT OF DIET QUALITY

### ALTERNATIVE 1

Establish a policy of nutritional quality for foods, which will encourage controlled nutrient improvement of many foods by the addition of nutrients.

While an adequate food supply is available, personal preferences, attractiveness of some food products that are poor nutritionally, and the constant appearance of new foods result in the selection of a poor diet. If most processed foods were required to contain a minimal baseline nutrient level, even those selecting a rather poor restricted diet would receive basic nutrient requirements.

The Department can accomplish such an improvement in food products and make the *suggested policy operational* through the activities of the Food and Drug Administration. In actual practice, the

<sup>1</sup> "Summary of the Follow-up Conference on Food, Nutrition and Health" from the Report of the Follow-up Conference on Food, Nutrition and Health, held in Williamsburg, Va., February 5, 1971, p. 25.

improved nutritional quality would be made a part of food standards, and regulations. The cost of such a program would be small in terms of added operational costs in the FDA. However, it would be necessary to have food intake and nutrition status information available before permitting expansion of fortification in order to prevent excessive intake levels of nutrients. Existing and currently proposed surveillance systems can provide the necessary information, but an evaluation and planning responsibilities must be established.

The current Food, Drug and Cosmetic Act has been interpreted to mean that protection of food quality and safety is key. However, this could be reasonably interpreted to mean that the FDA has a responsibility to initiate actions to assure that the diet of all Americans will provide the nutrient balance necessary for optimal nutrition. It may be necessary to have added legislative authority, however, if the more liberal interpretation of the current laws is not acceptable.

This program will depend on the cooperation of the Federal government and the food industry. Effective change will be accomplished only if the food industry is able to develop acceptable new foods and modified traditional foods with improved nutritional quality. The Food and Drug Administration will be required to establish guidelines and regulations that will protect the consumer from hazard and misleading claims, but permit and in fact require, that the nutritional quality of food be raised when this will benefit the population.

The proposed action would take place over a period of time which would be determined by a number of factors: the ability of the consumer the food industry and the FDA to establish commonly understood principles; the application by FDA of these principles in developing regulations and guidelines; and the development and evaluation of new and reformulated foods by industry.

This proposed action can also be considered in relation to any future Department action to modify the diet of all Americans, or special groups when clearly defined health benefits can be achieved. Such action would only be expected after considerable research effort by groups such as the National Institutes of Health, and careful review by the medical and health agencies within the Department.

#### COMPARISON OF ALTERNATIVES

The proposal and alternatives presented cover many areas, and cannot be easily compared one against another. In discussing each alternative, various aspects of each were evaluated, and modified by the committee in order to provide the most direct response to the major issue, how can DHEW best fulfill its role of assuring of optimal nutritional health to all citizens.

The committee recommends that consideration be given to each alternative by the respective agencies or offices identified in the statement of the alternative.

The committee calls attention to the three proposals listed first, and referred to under the discussion of analytic sub-issues. There is an urgent need to provide leadership to nutritional aspects of health, social service, education, welfare, and regulatory programs. Such leadership by the Department in the development of program guidelines and regulations, increased manpower support and expanded and revised education outreach programs, requires that there is a clear policy recognizing nutrition as an important factor in optimal health.

The committee also feels that the fragmentation of effort, in part due to the lack of a coordinating group, has led to duplication, and a loss of awareness by program staffs of related actions in nutrition and health. The committee members, though all active in various nutrition programs, have no mechanism to share ideas, review results of programs or coordinate activities on a formal and continuing basis. Preparation of position papers, and review of problem issues, such as this report, can be done effectively and efficiently only if some type of coordinating group in DHEW is organized and supported. The committee strongly recommends that consideration be given to the concept offered in Proposal 3.

The first proposal, to establish a scientific evaluation and review unit, and provide, on a continuing basis nutritional status reports, reflects the committee's experience in attempting to bring together information for this report. Basic information is obtained by many programs, and nutrition related data is collected as part of many field surveys and statistic gathering activities. But no one at the present time has the responsibility to bring this information together, review it, evaluate it, and then provide program planners with guidance documents. In order to provide guidance for program planning in relation to short and long term nutritional health requirements, an evaluation capability must be established in the Department.

The alternatives developed is the program areas related to the various aspects of the problem/issue, are similar in basic design. The committee, recognizing that increases in funds and manpower would probably not be available, and of the opinion that simple expansion of old programs would not aid the Department to assume its role, sought to describe ways that existing or proposed programs could be used to make nutrition in health a factor in the improvement of health and health care.

The alternatives which the committee most strongly supports are those which would build nutrition into health, social, welfare and education programs as part of regulations and guidelines. In some cases, additional support would be required, but in most cases, funds already provided for service support would offer a ready means to carry out the alternative if appropriate regulations calling for such support were made a part of the agency policy.

The major, and perhaps only adverse reactions could come from those groups and individuals committed to trying to solve nutritional problems with what has been tried in the past. As stated in the description of the problem, nutrition, food, and health problems rapidly undergo change and systems are needed which can identify change, and respond to change in a manner which will have a positive effect on health. By using already available resources, and programs, and seeking manpower and funding support only as it related to identified programs the basic alternative should be attractive to those concerned with not expanding funding levels. The committee feels that much can and should be done through what is already available. If optimal nutritional health is to be the goal, it can be achieved only as part of total programs to provide adequate income, health care, and preventive health education.

## RECOMMENDATIONS

The committee recommends that consideration be given to the specific alternatives in each of the program areas. Alternatives related to health programs cannot be considered as possible solutions for education programs, thus the committee does not feel that a list of proposed trade-offs can be given. Instead, the committee desires that each of the alternatives relating to a specific office or agency be taken as a recommendation for that particular aspect of the total problem/issue.

At the present time the lack of coordination and failure of the many groups in the Department to have a common goal in nutrition and health, reduces the effectiveness of the total effort. The three proposals the committee offers are designed to provide the basic foundation for coordinated nutritional health programs as part of the Department's overall program.

The alternatives proposed were selected, in every case because they offered the most reasonable measures to bring about desired change within existing program structure (whenever this was possible).

However, special attention is called to the following alternatives which could provide unique opportunities to make nutrition a living and active part of programs, and not an academic and lifeless lecture subject.

### 1. PROVISION OF NUTRITION SERVICES AND SUPPORT

Alternative 1.

Alternative 2.

Alternative 3.

### 2. EDUCATION

#### ALTERNATIVE 2.

These alternatives could be undertaken with very little increased support. They would require that the Department establish regulations and guidelines for the inclusion of nutritional activity in a number of ongoing programs.

### 3. RESEARCH AND DEVELOPMENT EFFORTS

In many of the alternatives, reference is made to the need for research to determine the best method(s) to support and provide nutritional services, and education in nutrition. While these research and development components were not broken out into individual items they are essential aspects of each alternative and should be considered a key to proposed action. The need is to recognize in planning stages, that research and development, with education must be a part of the programs. The committee strongly recommends that research and development efforts in relation to the nutritional aspects of social services, income maintenance, health education, and health services be started as soon as possible. This will provide information necessary to integrate sound nutrition action into existing and planned programs.

FOOD AND DRUG ADMINISTRATION,  
*Washington, D.C., May 4, 1972.*

Reply to Attn. of: BF-120.

Subject: Supplemental Information: Nutrition Study Group Report.  
To: Daniel I. Zwick, Special Assistant for Policy Development,  
Assistant Secretary for Health and Scientific Affairs, HEW.

The attached reports provide the information the committee members were able to develop from available information sources.

In addition, I have attached a memo covering a recent action by the USDA establishing a Committee on Food and Nutrition. A small committee has been working with the OST on a nutrition policy. The USDA representative has been pushing very hard to expand this agency committee approach, and then use the agency committees as points of liaison between departments.

OGDEN C. JOHNSON, Ph.D.  
*Director,*  
*Division of Nutrition, Bureau of Foods.*

Attachments.

## 1. INVENTORY OF HEW PROGRAMS AFFECTING NUTRITION

There is no current inventory of major HEW programs affecting nutrition. The last inventory was prepared in 1968 by a DHEW Intra-Department Nutrition Council (January 8, 1969 report, pp. 622-635). The most recent summary was prepared for the Department's statement to the Senate Select Committee on Nutrition and Related Human Needs, May 7, 1969.

It would be most timely to develop a current inventory of major HEW programs affecting nutrition. The impetus of any such activity should come from the OS since the information must be collected in a uniform manner, and will require cooperation of nutrition and fiscal personnel since a considerable proportion of HEW dollars being spent for nutrition is hidden in generalized programs and not readily identified as nutrition dollars.

It is estimated that a comprehensive study would require several months at a minimum and several persons full time during that period. This type of review should be done as it would be a first step if any type of coordinated effort were to be undertaken. It would require several months at a minimum, and the identification of several staff persons. The HSMHA has undertaken the development of a work plan related to HSMHA-supported nutrition activities, and one phase of this would be such an inventory for that Agency. The work has not started, but the Center for Disease Control (CDC) was given lead agency responsibility and is expected to carry out the work plan which included both the inventory and assistance in the development of guidelines for nutrition services.

While similar activities are not underway in other HEW units, it should be possible for many units to develop inventories based on the most recent budget reviews and submissions. It is suggested that if competent summer staff consultants could be identified, that this might be an undertaking worth considering for July and August, 1972.

### CURRENT HEW NUTRITION ACTIVITIES AND POSSIBLE ADDITIONS

NIH (NHI, NICHD, NIAMD)—Research, Manpower and Training.

HSMHA—Child Health Programs, Nutrition Program, CDC Surveillance—N.C.H.S. Indian Health, and Community Health Service.

FDA—Research, Regulation—Foods.

SRS—Community Services—Aging.

OS—Model Cities, Consumer Services, Office of Child Development.

OE—Office of Nutrition and Health Services, Home Economics/Health Education, Consumer Education, Follow Through, Migrant Education.

SSA—(*Future—?*), Family Assistance (Welfare Reform, Food Stamps.

## HEW RELATIONSHIPS WITH OTHER PROGRAMS

There appears to be only limited relationships between HEW and the nutrition activities of other Departments. The coordinating activities listed below cover current, and past attempts to provide coordination. It would appear that one major limitation in relation to the development of strong cooperation is the lack of a clearly delineated DHEW policy on nutrition.

a. There existed an agreement between USDHEW and USDA to cooperate all phases of nutrition programs, signed in February 1969 between Secretary Finch and Secretary Hardin. (Copy attached). Actual implementation of the agreement was apparently not undertaken.

b. The Interagency Committee on Nutrition Education, an officially established group meeting once a month to discuss programs related to education, provides an exchange of information, but does not attempt to coordinate programs. The Secretariat for the Committee is located in the USDA. There are at least ten DHEW units with representatives on the Committee. A copy of the Committee program is attached (Attachment A.)

c. The Interagency Committee on Communications in Nutrition Research, an ad hoc group which has representatives from USDA, DHEW and the Department of Defense. DHEW groups represented include FDA; Maternal and Child Health, NCHS; Nutrition Program, CDC, and Indian Health Service, all in HSMHA; and the Institute of Child Health and Human Development, and Arthritis and Metabolic Diseases in NIH.

d. Cooperative programs have been undertaken for special activities and joint statements issued. An example is the joint statement on "Supplementary Food Programs for Low-income Groups Vulnerable to Malnutrition" which was prepared by the Children's Bureau, SRS and CMS, USDA. These ad hoc activities are possible when both organizations are sufficiently aware of each others' programs to recognize the value of cooperation. With only limited contact there is no means to establish such cooperation.

e. The Office of Education has a direct relationship with the USDA program on school lunch and child feeding. The major responsibility remains in USDA.

There are several actions which could be taken to improve the HEW relationships with other Departments in relation to nutrition activities. The first relates to the establishment of a policy in regard to nutrition in the Department. This could not be carried out without an evaluation of current programs. The development of a comprehensive inventory which provided a clear picture of HEW programs would be a valuable step as it could serve to stimulate Agencies in other Departments to review their programs. Program comparisons would offer one means of establishing a point for discussion. Then there should be established a focal point (or points) which could be directed to serve to coordinate activities with related groups in other Agencies.

There still remains the need to have some coordinating force within HEW to provide a general coordination of activities, evaluate the effectiveness of coordinating actions between groups, and provide a

means for calling the Secretary's attention to nutrition problems, programs' successes and failures, and recommending actions which result from cooperative efforts. The committee approach of USDA is one way to accomplish this action, and a similar idea was expressed in the committee's initial report.

Without better internal coordination and the establishment of a Departmental nutrition policy, attempts to develop better external relationships will have only limited success.

## RE: FEDERAL GOVERNMENT

## I. PURPOSE

Both the U.S. Department of Health, Education, and Welfare, and the U.S. Department of Agriculture having certain responsibilities for Federal nutrition programs, it is hereby agreed that the respective Departments will cooperate with each other in carrying out these responsibilities.

This Memorandum of Agreement sets forth the basic arrangement for said cooperation.

It is understood that said cooperation shall include all phases of the nutrition program, including but not limited to: policies, goals, research, and training and action programs.

## II. LIAISON

The Secretary of the U.S. Department of Health, Education, and Welfare and the Secretary of the U.S. Department of Agriculture will each designate a key official in the Office of the Secretary of their respective Departments who will serve as the Department Liaison Officer pursuant to this Agreement. Each Department Liaison Officer will be concerned with: identification of broad policies affecting inter-departmental cooperation; resolution of differences between the Departments, through conferences and other procedures which bring the appropriate program officials together; periodic review of the status of the general agreement and specific agreements; and maintaining a Department repository for all specific agreements made pursuant to this general agreement.

## III. SPECIFIC AGREEMENTS

Specific agreements may be negotiated between principal program officials in the U.S. Department of Health, Education, and Welfare and in the U.S. Department of Agriculture pursuant to this general agreement. Such specific agreements should clearly delineate kinds and amounts of services to be rendered by each Department; the types and quantities of personal services, supplies, and equipment and facilities required to perform the agreement; the estimated costs of performing the agreement, including any limitations thereon; the arrangements for reimbursement; and the arrangements for periodic status reports, and a final report on the accomplishment of specific agreements.

Specific agreements shall be reviewed by each Department Liaison Officer prior to execution. Copies of specific agreements shall be given to the respective Liaison Officers.

## IV. ANNUAL REVIEW

The Department of Health, Education, and Welfare and the U.S. Department of Agriculture Liaison Officers shall make an annual review during the fourth quarter of each fiscal year to determine the specific agreements to be continued into the following fiscal year and to anticipate any new specific agreements. They will also review the general operations under this Memorandum of Agreement and recommend to the respective Secretaries any changes in the Agreement.

ROBERT H. FINCH,  
*Secretary of Health, Education, and Welfare.*  
 CLIFFORD M. HARDIN,  
*Secretary of Agriculture.*

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## BASIC INFORMATION ON THE INTERAGENCY COMMITTEE ON NUTRITIONAL EDUCATION

### INTRODUCTION

The Interagency Committee on Nutrition Education, formerly known as the Interagency Committee on Nutrition Education and School Lunch, resulted from the merging of two committees, January 1950. These were the Interagency Committee on School Lunch, with its secretariat provided by the Office of Education, Federal Security Agency, and the Nutrition Planning Committee, with its secretariat provided by the Agricultural Research Service. Both of these committees were organized during the first years of World War II. By the middle of 1949, they had overlapped membership and were discussing related programs, and it seemed expedient to merge and integrate the work of the two. In June 1962, the name was shortened to Interagency Committee on Nutrition Education, inasmuch as the group's chief function in relation to the school lunch program is that of helping maximize the opportunity the program affords for nutrition education.

### PURPOSE

To better understand the goals of member agencies and their nutrition-related programs; to stimulate efforts to improve the well-being of people through nutrition education and other activities.

### FUNCTIONS

1. Provides the opportunity for member agencies to gain a better understanding of purposes and programs of member agencies through exchange of information and materials, and discussion of common problems.
2. Shares information on current developments, pertinent research and nutrition education through Nutrition Program News and other media.
3. Provides a forum for discussion of issues and problems related to nutrition education.
4. Explores and suggests areas of needed studies, research, and action related to nutrition education for consideration by member agencies.

5. Sponsors conferences, workshops, and institutes, and otherwise furthers nutrition education.

6. Maintains communication with State and local nutrition committees.

#### MEMBERSHIP

The Interagency Committee on Nutrition Education consists of representatives from Government and Quasi-Government agencies that have responsibilities related to nutrition education.

Currently the Committee is made up of one or more members and alternates from each of the following:

##### *Department of Agriculture*

Agricultural Research Service

Consumer and Food Economics Research Division

Human Nutrition Research Division

Cooperative State Research Service

Extension Service

Division of Home Economics

Farmers Home Administration

Operating Loan Division

Food and Nutrition Service

Nutrition and Technical Services Staff

Foreign Economic Development Service

Foreign Training Division

##### *Department of Commerce*

National Oceanic and Atmospheric Administration

National Marine Fisheries Service

##### *Department of Health, Education, and Welfare*

Office of Child Development

Bureau of Head Start and Child Development

Office of Education

Division of Vocational and Technical Education

Office Nutrition and Health Services

Public Health Service

Food and Drug Administration

Health Services and Mental Health Administration

National Institutes of Health

Social and Rehabilitation Service

Assistance Payments Administration

##### *Office of Economic Opportunity*

Emergency Food and Medical Services Program

##### *American National Red Cross*

Office of Food and Nutrition

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DECEMBER 17, 1968.

#### SUPPLEMENTARY FOOD PROGRAM FOR LOW-INCOME GROUPS VULNERABLE TO MALNUTRITION

(A joint statement developed by the Children's Bureau, Social and Rehabilitation Service, U.S. Department of Health, Education, and

Welfare and the Consumer and Marketing Service, U.S. Department of Agriculture.)\*

This joint statement concerns a Supplementary Food Program for Low-Income Groups Vulnerable to Malnutrition in which the Department of Health, Education, and Welfare and Office of Economic Opportunity are cooperating with the U.S. Department of Agriculture. Federal, regional, State and local health, education, and welfare programs are urged to cooperate in (1) the identification and authorization of needy persons who require additional food for a health reason, (2) the distribution of supplementary foods to such persons, and (3) concurrent food and nutrition education programs for them and their families.

The primary objective of the program is to make available selected nutritious foods to individuals in vulnerable groups in low-income families who do not have an adequate food supply and who have been identified as needing food for health reasons. Vulnerable groups as defined for this supplemental food program include infants, preschool children (13 months through 5 years), pregnant women, post-partum and nursing mothers, all of whom may be susceptible to nutritional deprivation because of increased nutritional requirements for growth of pregnancy and lactation, or disease states, particularly those related to nutrition.

The specific legal basis or authority for the new program to operate when USDA's Food Stamp Program is operating is found in P.L. 90-463 which is the new appropriation act for the U.S. Department of Agriculture. In other areas the foods will be drawn from those acquired under USDA's price support and surplus removal legislation. For this program USDA funds are available only for food. Additional money needed for storage and distribution costs, educational aspects and clerical needs will have to be obtained from other sources—e.g., county or city government, local Office of Economic Opportunity or Community Action Programs. The Office of Economic Opportunity is actively supporting the program where its Comprehensive Health Care Program exists and is encouraging Community Action Program's to support it in other areas.

The criteria for participation in the program will include both a *health* and a *financial* component. Any individual in a vulnerable group whose need has been identified and who has by a means test that considers age, income, (location and income of parents, if a minor) and employability, been found to be eligible for existing health or welfare programs will be eligible for this new program. Examples of such eligible programs include the Office of Economic Opportunity's Comprehensive Health Services; the Children's Bureau's Maternity and Infant Care Projects Children and Youth Projects and Family Planning Projects; the Indians receiving free medical and health care from the Division of Indian Health; the Food Stamp and Commodity Distribution program participants; those receiving federally aided public or medical assistance; and those who qualify for receipt of health services provided by State, county or local public health services at no fee or substantially free.

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\*This memorandum supersedes the 1964 joint statement on "Improving the Nutrition of Needy Mothers and Children" prepared by CMS, U.S. Department of Agriculture and the Children's Bureau, U.S. Department of Health, Education, and Welfare.

Eligible individuals will receive food upon the receipt of an appropriate authorization which may be issued by a physician, public health nurse, social worker, nutritionist, or other staff member whom the physician may designate.

The authorization rates and a description of the foods which are to be made available are described in two informational sheets prepared by the USDA and included in the accompanying kit of materials, namely: "Maximum Distribution Rates in Supplemental Food Program for Low-Income Groups Vulnerable to Malnutrition" and a "Descriptive Listing of Supplemental Foods for Low-Income Groups Vulnerable to Malnutrition."

State distributing agencies are authorized to negotiate an approvable plan of operation with State, county or local public health and welfare authorizations. (See "USDA Policies and Procedures.")

#### HOW TO INITIATE A PROGRAM

In order to initiate a project (1) the State or local health agency should contact the State Director of the Commodity Distribution Program, and also inform the Children's Bureau Nutrition Consultant for their region or (2) the State or local food distributing agency should contact the State or local Director of Public Health or the Director of a Maternity and Infant Care, Children and Youth Project, or Family Planning Project.

#### OUTREACH EFFORTS

It is important that all organizations concerned with improving the nutritional status of low-income families cooperate in an "outreach effort" to see that the program is accessible and understood by all needy families in the area. Orientation about this new program should be provided for the personnel of all the community agencies including agriculture, health, education, welfare agencies, and community action programs.

#### NUTRITION EDUCATION

To further strengthen this effort it is important for cooperating agencies and groups to plan and carry out a concurrent food and nutrition education program. To assist in this endeavor the Consumer and Marketing Service of USDA and Children's Bureau have developed specific educational materials for this program. These are listed on the order form included in the accompanying kit of materials.

In addition, State and local public health agencies have many good educational materials in maternal and child feeding which might be utilized.

Attached is a kit of informational and educational materials to help you in initiating and developing this program:

- A copy of the USDA Policies and Procedures for the Program
- (CFP (C-D) (Instruction 708) Authorization Rates and Descriptive Listing of Foods for Supplemental Food Program:
- Exhibit A—Maximum Monthly Distribution Rates in Supplemental Food Program for Low-Income Groups Vulnerable to Malnutrition
- Exhibit B—Descriptive Listing of Supplemental Foods for Low-income Groups Vulnerable to Malnutrition

- An authorization form
  - A list of the State Food Distribution Directors
  - A list of Directors of Nutrition in State and Territorial Public Health Agencies
  - Educational materials from U.S. Department of Agriculture and Children's Bureau (See attached list).
- Attachments.

### 3. DATA REPORTING SYSTEMS FOR NUTRITION AND FOOD

The information collected by the National Center for Health Statistics, and accumulated during the course of the Ten State Nutrition Survey, is exceedingly valuable in providing information on the nutritional status of selected segments of a broad cross section of the U.S. population.

The HANES study is a specific time study, using a data collection system and sample design developed for only the one purpose. It is costly, but can be valuable as a major (and perhaps sole) means of establishing baseline data. However, neither the Ten State Nutritional Survey nor the National Center for Health Statistics Survey constitute an operational surveillance system.

What is required is an operational system which makes use of many other sources of health information that can, if properly evaluated, and combined with data from the specific nutrition studies provide the needed continuing guidance for program planning and change. If properly established, most of the basic information is collected as part of other health systems.

Such a surveillance system should be engineered so that it is an acceptable stimulus to remedial action once the mechanism shows that remedies should be applied. What is needed is a system which covers the population, particularly the subpopulation groups at particular risks, tests for the adequacy or inadequacy of nutritional status in relationship to the most critical components of human nutrition, identifies and characterizes the populations suffering from nutritional inadequacies which have genuine and significant implications for the health of the individuals making up that population, and identified changes which result from the institution of remedial action.

### 4. STEPS NEEDED TO ESTABLISH AND MONITOR UNIFORM NUTRITIONAL STANDARDS FOR HEW PROGRAMS

A basic factor in developing and monitoring nutritional standards for HEW Programs is the establishment of a HEW nutrition policy. Without such guidance, uniformity is not possible.

The following actions would provide HEW with a mechanism for establishing and monitoring nutritional standards in pertinent programs:

(a) A "central nutrition mechanism" should be established in Office of Secretary to:

1. review and identify all present DHEW programs with a nutrition component and classify them as to the adequacy of existing nutritional standards and guidelines.

2. work with legislative unit/OS in reviewing all proposed legislation and ensuing regulations in order to assure that provision for nutritional standards are included as appropriate.

3. maintain an up-to-date file on all existing nutrition standards and guidelines of DHEW programs and of all comparable accrediting bodies such as American Hospital Association, American Dietetic Association, etc.

4. review and approve all nutritional standards and guidelines developed for DHEW programs in order to attain some degree of consistency.

5. provide technical assistance to DHEW programs re development of appropriate nutritional standards and guidelines.

(b) Individual program units within DHEW should have major responsibility for the actual development, implementation and monitoring of nutritional standards since nutrition services are delivered as an integral component of a broader program—e.g. health care, child development, educational services, etc. To develop nutritional standards in isolation from total standards could lead to the “nutritional tail wagging the dog.” Although developed by individual program units, the review by “central nutrition mechanism/OS” would assure consistency of nutrition standards for all DHEW programs.

## 5. NUTRITIONAL SERVICES OF MEDICARE AND MEDICAID

Several summaries of the nutrition services under Medicaid have been completed. A rather comprehensive one done a short time ago is attached (Attachment 1). This points out that nutritional services are basically included as part of other major services, but that nutritional service as a separate service is not funded.

In regard to N.H.I.S.A. and F.H.I.P. it appears that a similar pattern will be continued. Dietary services will probably continue to be included in calculating reasonable cost and the state's negotiated rates for in-patient care as under Medicare and Medicaid.

However, the nutrition component of preventive and health maintenance services (including out-patient care) is very much in doubt. Neither HMO's or the present health insurance proposals give adequate consideration to nutrition service as a component of the basic health care plan. Unless the regulations developed for N.H.I.S.A. or F.H.I.P. clearly define nutritionists and nutrition services as a benefit under maternity care, well baby care, out-patient services, medical and other health services, etc., nutritional services as an integral part of comprehensive health care in the nation could become non-existent.

It would appear reasonable to include nutritional services in health plans directed toward prevention of disease (keeping people well) as well as providing health care. As nutrition is one key factor in good health, the provision of nutrition services in preventive health should be part of the health maintenance program. Such services would include:

1. Individual and group counseling.
2. Consultation to group care facilities.
3. Development of nutrition teaching methods.
4. Training and continuing education for nutrition personnel at support level and for professional nutrition personnel.
5. Assessment of nutritional status and food patterns.

## NUTRITION SERVICES PROVIDED UNDER TITLE XIX

Four types of nutritional services may be financed under Medicaid:

- (1) professional planning and supervision of menus and meal service for patients for whom special diets or dietary restrictions are medically prescribed,
- (2) professional nutritional counseling,
- (3) preparation of meals for persons who are unable to do so themselves, and
- (4) nutritional aspects of screening, diagnosis and treatment.

Nutritional services under Title XIX are included as part of other major services provided; direct Medicaid reimbursement is not available for nutritional services provided as a separate service. Nutritional services are included as part of (1) inpatient hospital care, (2) outpatient hospital care, (3) skilled nursing home care, (4) home health care services, (5) early and periodic screening, diagnosis and treatment, (6) personal care services in a recipient's home, and (7) ICF care. The first five services are required services which States must include in their State Medicaid plans, with home health care services required to be provided to any individual in need of skilled nursing home care. Forty-five States and jurisdictions include home health aide programs in their provision of home health care services, seven States provide personal care services in a recipient's home, and 34 States provide ICF care.

## I. INPATIENT HOSPITAL CARE

Provision for diets and food preparation are integral services of inpatient hospital care. Reimbursement for nutrition services is included in the calculations made for inpatient hospital reasonable costs.

## II. SNH CARE

Preparation of menus and food and supervision of feeding is also an integral part of SNH care.

Title XIX regulations on provision of dietary services are quite specific. SNH's are required to have professional planning and supervision of menus and meal service for patients for whom special diets or dietary restrictions are medically prescribed. Menus for such persons must be planned and supervised by professional personnel meeting the following qualifications:

- (a) A dietician who meets the American Dietetic Association's standards for qualification as dietician, or
- (b) A graduate holding at least a bachelor's degree from a university program with major study in food and nutrition; or
- (c) A trained food service supervisor, or associate degree dietary technician, or a professional registered nurse, with frequent and regularly scheduled consultation from a dietician or nutritionist meeting the qualifications stated in subdivisions (a) and (b) of this subparagraph.

Special and restricted diet menus are to be kept on file for at least 30 days, notations are to be made of any substitutions or variations in the meal actually served, and the patients to whom the diets are actually served are identified in the dietary records.

Procedures are required which assure that the serving of meals to such patients is supervised and their acceptance by the patient is observed and recorded in the patient's medical record.

Finally, the regulations define a SNH as an institution where food is prepared and served under competent direction, at regular and appropriate times, and where professional consultation is available to assure good nutritional standards and that the dietary needs of the patients are met (45 CFR 249.10) (45 CFR 249.33)

### III. OUTPATIENT HOSPITAL CARE

Nutrition services are provided as outpatient hospital services if a dietician is a member of the outpatient clinic staff. In general, nutritional counseling would be provided by large teaching hospitals which tend to have dieticians on their staff to a greater extent than general hospitals.

### IV. HOME HEALTH CARE

Under the regulations for home health care services, provision is made for intermittent or part-time nursing furnished by (a) a home health agency or (b) by a professional registered nurse or a licensed practical nurse under the direction of the patient's physician when no home health agency is available. Dietetic counseling can be one of the services offered to the patient along with other medical services provided in the home; for example, dietetic counseling may be given to a diabetic by a visiting nurse along with assistance in insulin management.

Home health care regulations also include provision for home health aides who perform personal care services as outlined by a physician's plan of treatment under the supervision of a professional registered nurse. Personal care services of the home health aide can include assistance in the preparation of food along with help with personal hygiene and administration of medications. However, nutritional services can not be reimbursed separately, i.e., preparation of meals alone would not be a reimbursable service under Title XIX.

### V. EARLY AND PERIODIC SCREENING, DIAGNOSIS AND TREATMENT

The ESDT regulations provide that nutritional aspects of screening, diagnosis and treatment for all Medicaid-eligible children under 21 might be included in a State's ESDT program and that the State Title XIX agency could pay for such services.

### VI. OPTIONAL SERVICES

#### *Personal Care*

Under Title XIX States may opt to provide personal care services in a recipient's home rendered by a qualified individual where the services are prescribed by a physician in accordance with a plan of treatment and are supervised by a registered nurse (45 CFR 249.10). Seven States include this service under their Medicaid programs.

Personal care services, like those performed by home health aides representing a home health agency, may include assistance with food preparation along with assistance in bathing, walking, etc., but food

preparation cannot be the only service needed by the patient. Personal care services include assistance with personal hygiene, maintenance of a clean environment, preparation and serving of food, and administration of medications. The manual of instruction for the providers of personal care in Oklahoma includes a section on preparation and serving of food with basic nutritional information presented in a non-technical manner.

The primary difference between personal care services and the services which may be provided by a home health aide is that the latter services are provided through a home health services agency and the providers of home health aide services are likely to have had more training. A second difference is that personal care services may include arrangements where live-in providers care for their patients, while home health aide services are generally of short duration.

#### *ICF Care*

ICF care includes preparation of meals for persons who are residents of the ICF; these persons are generally unable to prepare their own meals because of their physical or mental condition.

There are at present no Federal ICF requirements for meal planning, preparation or serving. Federal regulations *recommend* that special diet menus be planned by a professionally qualified dietician or be reviewed and approved by the attending physician (45 CFR 234.130).

New Federal regulations are in process of clearance which will substantially upgrade dietary services provided in ICF's. The upgrading of dietary and other ICF requirements is the result of the transfer of the ICF program from APA to MSA effective January 1, 1972.

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UNITED STATES DEPARTMENT OF AGRICULTURE,  
OFFICE OF THE SECRETARY,  
Washington, D.C., March 20, 1972.

#### SECRETARY'S MEMORANDUM No. 1773

##### COMMITTEE ON FOOD AND NUTRITION RESEARCH

This memorandum establishes the Committee on Food and Nutrition Research in order to facilitate the discharge of the Department's responsibilities with respect to food and human nutrition.

*Functions.* The functions of the Committee include the following:

1. To act as a focal point on matters related to food and nutrition research that are of concern to more than one agency of the Department.

2. To assure close working relationships and coordination of activities among Departmental groups concerned with food and nutrition research and those involved in the nutritional aspects of other programs such as school lunch; food distribution; food stamps; and food production, processing, and marketing.

3. To appraise the nutritional implications of current Departmental and related programs, identify research needs, and recommend appropriate food and nutrition research programs.

4. To maintain liaison with other groups or agencies concerned with research or related programs in human nutrition, including

the Food and Nutrition Board of the National Research Council.  
*Scope.* Specific areas of food and nutrition research to be considered by this Committee include the following:

1. Nutrient requirements and interrelationships in man.
2. Biological availability and safe levels of intake in man.
3. Composition and nutritive value of foods.
4. Food consumption and nutrient intakes.
5. Food production as related to nutritive value and naturally occurring toxicants.
6. Storage, processing, distribution, and preparation of foods as related to nutrition value and naturally occurring toxicants.
7. Food economics and marketing.
8. Fortification, modification, and development of new foods.
9. Nutrition education.
10. Effectiveness of public and private food delivery systems as related to food consumption, nutrient intakes and efficiency.

*Membership.* The Chairman of the Committee will be from Science and Education, and the Vice Chairman will be from the Agricultural Research Service. Other members of the Committee and alternates shall be designated by the Administrator of each member agency, to participate fully in Committee activities, as follows:

- Agricultural Research Service—Three members
- Consumer and Marketing Service—One member
- Cooperative State Research Service—One member
- Economic Research Service—One member
- Extension Service—One member
- Food and Nutrition Service—Three members

Agency representatives shall provide or arrange for information and staff assistance for the Committee as may be needed to deal effectively with activities or reports involving programs and responsibilities of their agencies.

Representatives of other agencies and selected individuals may be invited to attend Committee meetings as deemed appropriate by the Chairman.

The Committee will meet once a month or at the discretion of the Chairman.

All recommendations, reports, or other actions of the Committee will be submitted to the Secretary through the Director of Science and Education.

EARL L. BUTZ,  
*Secretary of Agriculture.*

## APPENDIX E

[From the Milling & Baking News, Sept. 23, 1975]

### NEW CONTROL OF FARM POLICY DESCRIBED

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*Don Paarlberg asserts control of farm policy has been lost by old establishment; "new agenda" headed by holding down prices*

CLYMER, N.Y., Sept. 22.—"The agricultural establishment has, in large measure, lost control of the farm policy agenda," Don Paarlberg, director of agricultural economics, U.S. Department of Agriculture, acknowledged in an address at the National Public Policy Conference in Clymer Sept. 11. Mr. Paarlberg defined the agricultural establishment as the farm organizations, agricultural committees of the Congress, the Department of Agriculture and the land grant colleges.

Mr. Paarlberg described the "old agenda" of agricultural policy as concerned primarily with commodities and specifically with influencing supplies and prices in the farmer's interest. But, he described a "new agenda" that had been adopted "over the protests of the agricultural establishment." On the new agenda he listed food prices and how to hold them down, various food programs, ecological questions, rural development, land use questions, civil rights and collective bargaining.

Text of Mr. Paarlberg's address follows, in part:

The biggest issue of agricultural policy is this: Who is going to control the farm policy agenda and what subjects will be on it?

As always, whether in the faculty senate at the university or in the halls of Congress, the most important role of leadership is to be able to control the agenda, to lift up certain issues for resolution, and to keep other issues from coming up.

There is an old farm policy agenda and a new one. The old agenda is the one that has long been before us. Here are some of the issues:

How to improve agricultural efficiency? This one is 100 years old.

How to control production and support prices of farm products? This one is 40 years old.

The old agenda is concerned primarily with commodities and specifically with influencing supplies and prices in the farmer's interest. It has long been the agenda of what might be called the agricultural establishment: The farm organizations, the agricultural committees of the Congress, the Department of Agriculture, and the land grant colleges. While these groups do not see all issues alike, they have long been agreed on one thing—that they should be the farm policy decision makers.

### SPELLS OUT NEW AGENDA

The new agenda differs radically from the old one, as this listing will clearly show:

- Food prices and specifically how to hold them down, an issue placed on the agenda by the consumers.
- The various food programs which now take up two-thirds of U.S.D.A. budget, so that we are more a Ministry of Food than a Department of Agriculture. This issue was placed on the agenda by what has become known as the hunger lobby.
- Ecological questions, placed on the agenda by the environmentalists.
- Rural development, primarily a program of the 80% of the rural people who are nonfarmers.
- Land use questions, raised by those who oppose the long-held idea that farmers have first claim on the use of land.
- Civil rights, advocated by those who challenge the white male tradition that has long characterized agriculture.
- Collective bargaining for hired farm labor, placed on the agenda by organized labor.

Most of these issues have been placed on the agenda over the protests of the agricultural establishment. The agricultural establishment has, in large measure, lost control of the farm policy agenda. During the past six years I have spent more time on the new agenda than on the old one.

The agricultural establishment has had the ball for 100 years, but sometime during the last 10 years there was a turnover. Not rapid, or clean-cut or dramatic as in a football game. In fact, it has been so gradual that we have not fully realized it. But the initiative has changed hands, none-the-less.

We could spend a lot of time on post-mortems, trying to figure out why the farm policy agenda has been changed. Some will say the change comes from the loss of political power, traceable to the decline in the number of farmers. Others contend that it reflects a change in fundamental mood of the country. Still others believe that pro-farmer programs are only temporarily superseded, that large supplies and low farm prices will reappear, and that the old agenda will be back with us in a year or two.

How should we who are of the agricultural establishment deal with the new agenda?

To make clear the set of value judgments with which I address this question, I indicate here this overall objective:

A free and prosperous agriculture and a food industry that is open and competitive, with assistance for the least fortunate and least able.

With a different objective, no doubt a different analysis would emerge.

### CITES FOUR POSSIBLE STRATEGIES

I see four different possible strategies, as follows: hallucination, confrontation, capitulation, cooperation.

#### HALLUCINATION

We might deceive ourselves into thinking that nothing has changed. Or if things have changed, they will soon return to the status quo ante.

This strategy requires less thinking than any of the others I shall discuss, and so has its attractions. It is akin to the attitude of the loyal subjects in the fable, who professed to be unaware that the emperor was without clothes.

*I mentioned earlier that the establishment had lost the farm policy ball. There is one thing worse than losing the ball—that is to lose the ball and think you've still got it.*

#### CONFRONTATION

One way to deal with the new agenda is to challenge, head on, those who put it forward. We would continue to be the advocates of our long-time constituents, to defend the old ground, to repeat the honored rhetoric, and to take direct issue with those who have wrested the farm policy agenda out of our hands. We would recognize that the ball had gone over to the other team, and would consciously play defense.

There is nothing wrong with playing defense. With a good defense you perhaps can protect a lead, and you may be able to recover a fumble.

We would thus oppose the claims of the ecologists, challenge the burgeoning food stamp program, take issue with the consumer advocates, resist the civil rights movement, and declare the rural non-farm people to be the constituents of some other agency. This alternative would be true to our honored past.

But, weak as we are, it would probably result in very few victories. One should not choose confrontation as a strategy unless he has a reasonable chance of winning.

#### CONFRONTATION DEEPENS THE ISSUE

There is this trouble with confrontation strategy—that it deepens the issue and makes it more difficult for either party to retreat with honor.

The chances of succeeding with confrontation strategy may not be very great. Our old constituents are fewer in number, despite their undoubted worthiness. And even for them, needs have changed so that the old agenda is less meritorious than it once was.

#### CAPITULATION

Another way to deal with the new agenda is to accept it, to surrender our traditional views. "If you can't lick them, join them." If there are more people in favor of coyotes than of lambs, side with the coyotes. If the majority of people favor low food prices, go for a cheap food policy. Accept the recent past as a wave of the future.

#### NOT A GOOD ALTERNATIVE

There are some farm policy people (not many) who are ready to capitulate. As you can discern, I do not think this is a good alternative.

#### COOPERATION

We establishment people are like a Congressman who has been re-districted. Earlier he had a good safe district with constituents whose

problems he knew and toward whom he felt sympathetic. Now he has new constituents, whom he did not seek. Their problems are new to him, and the things they want are different from desires of his old constituents.

So some kind of cooperation is called for.

One type of "cooperation" was evident in the passage of the so-called emergency farm bill early this spring. The architects of the old agenda got together with the architects of the new one and worked out a deal. "You support our farm bill and we'll support your food stamps."

So a coalition was formed. From the standpoint of the agricultural establishment, the deal didn't work out so well. The new boys got their food stamps but the old boys didn't get their farm bill. One should beware of joining himself with an overpowerful ally; he may not have much influence on the joint undertakings.

Cooperation involves something more than trying to pool the current desires of people with conflicting interests.

#### REACHING OUT FOR CONSENSUS

There is another, more constructive form of cooperation. It consists of listening to the other party and reaching out for some degree of consensus. It involves restraining the appetite to some degree.

This past July there was an agricultural research conference at Kansas City, the purpose of which was to plan research for the next decade or two. Present were not only members of the agricultural establishment but also consumers, ecologists, nutritionists, people from the labor unions and civil rights advocates. The meeting was a bit unusual. It was constructive.

The Rural Development Program has reached out to solicit, welcome and acknowledge the contributions of many groups in addition to those of the agricultural establishment. This has worked fairly well. The program is now probably in better shape than it ever has been. Listening to the rural non-farm people has been helpful.

Progress is being made in the civil rights area through cooperation with groups quite outside the agricultural establishment. Agricultural services are increasingly broadened, providing assistance to those who have been inadequately served. Progress has occurred. In general, confrontation has been avoided.

It takes two to cooperate, as it does to tango. We should not assume that if we establishment people reach out with cooperative intent, the architects of the new agenda will automatically reach out in response. They may or they may not. But up to now I think it is fair to say that when we have reached out with sincere intent, there has been a response.

Cooperation is difficult—and risky. Cooperative intent may be interpreted as a sign of weakness, an invitation to be overwhelmed. We cannot expect to dictate the conditions or the terms of the joint effort.

There are two different ideas of government, just as there are two different types of cooperation.

One idea is to group the people on the basis of some criterion, to get into one camp all those who have one particular attribute, say a liking for low prices. Put into another camp all those who have the opposite view. Then hammer out the solution. Obviously, this means clean-cut issues and a head-on slugging match at the highest levels.

## WORK OUT DIFFERENCES AT LOWER LEVELS

Another idea is to work out some of these things at lower levels, so that the differences are not so great when final resolution takes place. Instead of having all the advocates of high prices in one group and all those who favor low prices in another, mix them together a bit, so that they have to work things out among themselves. Cooperation is made necessary, people are impelled to listen as well as to speak, and decision-making takes place at the lower as well as the upper levels. This seems to me a far better system.

The cooperative attitude is beginning to permeate all members of the old agricultural establishment.

The agricultural committees of the Congress are no longer the single-minded advocates of the old agenda which they once were. The cooperative intent is visible in their work on rural development, environmental programs and other current issues.

The Department of Agriculture has changed its official stance on a number of issues. The big commodity programs are a case in point.

The land grant colleges, in their teaching, their research, and their extension, have modified their offerings in the light of changing times.

The farm organizations are also listening. For example, they are now willing to hear proposals which would extend collective bargaining rights to hired farm labor.

## STRATEGIES ARE MUTUALLY EXCLUSIVE

I have been speaking of these various strategies as if they were mutually exclusive. This need not be so. It is possible to take an overall attitude of cooperation and still adopt elements of the other strategies in particular cases.

Some issues may best be handled by pretending they don't exist. For example, benign neglect may be the best way of dealing with perennial attacks on the middleman, a subject which is on both the old and new agenda. There is no known solution to this "problem," which objectively measured, is of minor importance. Maybe it can be finessed. The public view is that any issue on the agenda is a legitimate one, and that a solution can be found if men of good will would put their minds to it. One or both of these things may be untrue, in which case it may be best to pretend the issue does not exist.

Though the basic attitude be cooperation, it is perhaps best sometimes to capitulate. An example: the Department of Agriculture had long defended huge commodity payments to a few large farming operations. These payments turned out to be indefensible. So the Department capitulated.

Sometimes confrontation is an appropriate policy, even though the cooperative intent is, overall, the dominant one. President Ford confronted a farmer-labor-consumer coalition in vetoing the Emergency Farm Bill this spring. In my opinion, this was a constructive act of public policy.

## UNPREDICTABILITY "IMPORTANT INGREDIENT"

An element of unpredictability is an important ingredient of strategy in the area of public policy. But it should not be the sole element.

To be either totally predictable or totally unpredictable would be a major strategic error.

I began this presentation with the question, "Who is going to control the farm policy agenda and what subjects will be on it?"

My answer to this question is that only if the agricultural establishment takes a generally cooperative attitude can they expect to have much of a role in shaping the farm policy agenda and influencing the particular issues that appear thereon.

#### MUST ADDRESS THE "NEW AGENDA"

This says something to those of us concerned with research in the policy area. We, as well as the political strategists, will have to take a cooperative role (which many are already doing). There is little good to be accomplished by researching a subject that we are unable to put on the agenda. It is my belief that the marginal contribution to an understanding of the policy issues is greater if we address ourselves to the items on the new agenda than if we continue to focus on the old one.

In extension as well as in teaching, the new constituency will have to be served.

# Appendix F

TABLE 1.—LEVELS OF NUTRITIONAL ASSESSMENT FOR INFANTS AND CHILDREN

Level of approach <sup>1</sup>	History		Laboratory evaluation
	Dietary	Medical and socioeconomic	
Birth to 24 months: Minimal.....	1. Source of iron. 2. Vitamin supplement. 3. Milk intake (type and amount).	1. Birth weight. 2. Length of gestation. 3. Serious or chronic illness. 4. Use of medicines.	1. Hematocrit. 2. Hemoglobin.
Mid-level.....	1. Semi-quantitative: (a) Iron-cereal, meat, egg yolks supplement. (b) Energy nutrients. (c) Micronutrients—calcium, niacin, riboflavin, vitamin C. (d) Protein. 2. Food intolerances. 3. Baby foods—processed home cooked.	1. Family history: Diabetes, tuberculosis. 2. Maternal: height, prenatal care. 3. Infant: immunizations tuberculosis test.	1. RBC morphology.
In-depth level.....	1. Quantitative 24-hr recall. 2. Dietary history.	1. Prenatal details. 2. Complications of delivery. 3. Regular health supervision. 4. Ecchymoses.	2. Serum iron. 3. Total iron binding capacity.
For ages 2 to 5 years....	Determine amount of intake.	1. Cranial bossing. 2. Epiphyseal enlargement. 3. Costochondral beading.	4. Sick cell testing. Same as above, plus vitamin and appropriate enzyme assays; protein and amino acids; hydroxy-proline, etc., should be available.
For ages 6 to 12 years..	Probe about snack foods; determine whether salt intake is excessive.	Add height at all levels; add arm circumference at all levels; add triceps skinfolds at in-depth level. Add blood pressure at mid-level; add description of changes in tongue, skin, eyes for in-depth level.	Add serum lead at midlevel; add serum micronutrients (vitamins A, C, folate, etc.) at in-depth level. All of above plus BUN.

<sup>1</sup> It is understood that what is included at a minimal level would also be included or represented at successively more sophisticated levels of approach. However, it may be entirely appropriate to use a minimal level of approach to clinical evaluations and a maximal approach to laboratory evaluations.

Source: From Nutritional Assessment in Health Programs, compiled from proceedings of a conference sponsored by the American Public Health Association, under contract from the Department of Health, Education, and Welfare.

TABLE 2.—LEVELS OF NUTRITIONAL ASSESSMENT FOR ADOLESCENTS

Levels of approach	History			Laboratory evaluation
	Dietary	Medical and socioeconomic	Clinical evaluation	
<b>Minimal level</b> -----	1. Frequency of use of food groups. 2. Habits-patterns. 3. Snacks. 4. Socioeconomic status.	1. Previous diseases and allergies. 2. Abbreviated system review. 3. Family history.	1. Height. 2. Weight.	1. Urine, protein and sugar. 2. Hemoglobin.
<b>Mid-level</b> -----	1. Above. 2. Qualitative estimate. 3. 24-hr recall.	1. Above in more detail.	1. Above. 2. Arm circumference. 3. Skinfold thickness. 4. External appearance.	1. Above. 2. Blood taken by vein for albumin (serum), serum iron and TIBC; vitamins A and beta carotene; RBC indices; blood urea nitrogen (BUN); cholesterol; zinc.
<b>In-depth level</b> -----	1. Above. 2. Quantitative estimate by recall (3 to 7 days).	1. Above.	1. Above. 2. Per ICNND manual. 3. X-ray of wrist and bone density.	1. Above. 2. Blood tests: folate and vitamin C; alkaline phosphatase; RBC transketolase; RBC glutathione; lipids. 3. Urine: creatinine; nitrogen; zinc; thiamine; riboflavin; loading tests (xanthurenic acid/FIGLU). 4. Hair root: DNA; protein; zinc; other metals.

TABLE 3.—LEVELS OF MATERNAL NUTRITIONAL ASSESSMENT

Level of approach	History			Laboratory evaluation
	Dietary	Medical and socioeconomic	Clinical evaluation	
Minimal.....	Present basic diet; meal patterns; fad or abnormal diets; supplements.	Obstetrical: Age; parity; interval between pregnancies; previous obstetrical history. Medical: Intercurrent diseases and illnesses; drug use; smoking history. Family and social: Size of family; "wanted" pregnancy; socioeconomic status.	Prepregnancy weight, weight gain pattern during pregnancy, signs and symptoms of gross nutritional deficiencies.	Hemoglobin; hematocrit.
Mid-level.....	The above, plus semiquantitative determination of food intake.	The above, plus occupational patterns; utilization of maternity care and family planning services.	The above, plus screening or intercurrent disease.	The above, plus blood smear; RBC indices; serum iron; sickle preparation.
In-depth level.....	The above, plus household survey data; dietary history; quantitative 24-hr recall.		The above, plus special anthropometric measurements of skinfold, arm circumference, etc.	The above, plus folate and other vitamin levels.

TABLE 4.—LEVELS OF NUTRITIONAL ASSESSMENT FOR THE ELDERLY

Levels of approach	History			Laboratory evaluation
	Dietary	Medical and socioeconomic	Clinical evaluation	
Minimal	<ol style="list-style-type: none"> <li>1. Meals eaten per day, week; regularity.</li> <li>2. Frequency of ingestion of foods (4 food groups).</li> <li>3. Supplemental vitamins, protein concentrates, mineral mixes.</li> <li>4. General knowledge of nutrition, sources of information.</li> </ol>	<ol style="list-style-type: none"> <li>1. Chronic illness and/or disability; occupational hazard exposure; use of tobacco, alcohol, drugs.</li> <li>2. Symptoms such as bleeding, fainting, loss of memory, dyspnea, headache, pain, changed bowel and/or bladder habits, altered sight and/or hearing, condition of teeth, and/or dentures.</li> <li>3. Therapy (prescribed or self-administered) such as drugs, alcohol, vitamins, food fads, prescription items, eyeglasses, hearing aids.</li> <li>4. Names, addresses, and phone numbers of persons providing medical or health care; close family or friends.</li> <li>5. Lives alone, with spouse, or companion.</li> <li>6. Sources of income.</li> </ol>	<ol style="list-style-type: none"> <li>1. Height and weight; cachexia; obesity.</li> <li>2. Blood pressure, pulse rate and rhythm.</li> <li>3. Pallor, skin color and texture.</li> <li>4. Condition of teeth and/or dentures and oral hygiene.</li> <li>5. Affect during interview and examination.</li> <li>6. Vision and hearing appraised subjectively and objectively by examiner.</li> <li>7. Any gross evidence of neglect.</li> </ol>	<ol style="list-style-type: none"> <li>1. Hemoglobin.</li> <li>2. Blood and/or urine sugar.</li> <li>3. Urinalysis (color, odor, bile and sediment by gross inspection; pH, glucose, albumin blood, and ketones by stick test).</li> <li>4. Feces (color, texture, gross blood; occult blood by guaiac test).</li> </ol>
Mid-level	<p>In addition to the above:</p> <ol style="list-style-type: none"> <li>1. Food preferences and rejections.</li> <li>2. Overt food fads.</li> <li>3. Meal preparation facilities and knowledge.</li> <li>4. Food budget.</li> <li>5. Usual daily diet: Protective foods (meats, dairy products, fruits and vegetables, cereals); nutrients (protein, fat, carbohydrates, iron, water and fat-soluble vitamins, minerals, trace elements, and water); empty calorie food (alcohol, candy, sucrose).</li> </ol>	<p>In addition to the above:</p> <ol style="list-style-type: none"> <li>1. Family history of spouse, parents and siblings, other relatives, persons living in same household.</li> <li>2. Pain: location, frequency, character, duration.</li> <li>3. Mental hygiene: attitudes, fears, prejudices, symptoms of psychoses, possible psychosomatic symptoms and signs.</li> <li>4. Income: amount and adequacy for nutrition, housing, health, utilities, clothing, transportation, etc.</li> </ol>	<p>In addition include:</p> <ol style="list-style-type: none"> <li>1. Head and neck examinations (otoscopic, ophthalmoscopic, dental and oral cavity, nose and throat).</li> <li>2. Chest (inspection, palpation, auscultation and percussion, bi-manual examination of breast tissue).</li> <li>3. Abdomen (inspection, auscultation, percussion, and palpation).</li> <li>4. Rectal and pelvic.</li> <li>5. Inspection and palpation of extremities (evaluation for temperature, edema, pulse, discoloration, ulcers).</li> </ol>	<p>In addition include:</p> <ol style="list-style-type: none"> <li>1. Serum lipids (including B-lipoproteins).</li> <li>2. Serum iron and iron binding capacity.</li> <li>3. Urinalysis.</li> <li>4. Electrocardiogram.</li> <li>5. Peripheral blood smear for differential white blood cell count and red cell morphology.</li> </ol>
		<ol style="list-style-type: none"> <li>6. Gross neurological evaluation; motor and sensory.</li> </ol>	<ol style="list-style-type: none"> <li>6. Chest film.</li> <li>7. Post-voiding residual urine by catheterization (if indicated).</li> </ol>	

In-depth <sup>1</sup> -----	In addition include:	If indicated, include:	If indicated, include:
<ol style="list-style-type: none"> <li>1. 24-hr dietary recall, preferably for each of several widely separated days; analysis of nutrient intake; evaluation of adequacy e.g. relate to activity, body weight, laboratory data, affect, etc.</li> <li>2. History of past and present food preparation and practices.</li> <li>3. History of dining practices and facilities, including companionship.</li> </ol>	<ol style="list-style-type: none"> <li>1. System review.</li> <li>2. Social history.</li> <li>3. Economic history including specifics on sources and amounts of income.</li> <li>4. Mental evaluation (attitudes toward aging).</li> </ol>	<ol style="list-style-type: none"> <li>1. Complete sensory and motor neurologic examination.</li> <li>2. Sigmoidoscopy.</li> <li>3. Ophthalmologic examination (ophthalmoscopic examination with pupils dilated, refraction, dark adaptation, color perception, visual field examination).</li> <li>4. Audiometry.</li> </ol>	<ol style="list-style-type: none"> <li>1. Serum total protein and albumin; serum creatinine and/or blood urea nitrogen (BUN).</li> <li>2. Roentgenographic evaluation of bones and joints suspected of being fractured, harboring infection and affected by rheumatic and/or metabolic bone disease and/or metastatic or primary neoplastic disease.</li> <li>3. Glucose tolerance tests.</li> <li>4. Blood and/or urine vitamin assays for water-soluble and fat-soluble vitamins.</li> <li>5. Trace element assays of blood, urine, and/or tissue.</li> <li>6. Kidney-ureter-bladder (KUB) film for stones in urinary tract or gall bladder.</li> <li>7. Bacteriologic cultures of any chronic infections.</li> <li>8. Barium enema, upper gastrointestinal series, gall bladder series and intravenous pyelography.</li> <li>9. Fluoroscopy of chest.</li> <li>10. Angiography for coronary arteries, aorta, peripheral vessels.</li> <li>11. Bone marrow for unexplained anemia.</li> <li>12. Renal clearance studies.</li> <li>13. Histologic evaluation of biopsies of tissue suspected of being neoplastic.</li> </ol>

<sup>1</sup> The aged, quite unlike children and youth, are the end result of lifetimes of physiologic aging, diseases, and disabilities and cannot be evaluated as if they belonged to younger cohorts. In the above table, it is assumed that mid-level evaluation procedures may be carried out in ambulatory care

settings and that in-depth level procedures may be conducted as hospital or research procedures. The placement of these in actual practice will depend on availability of facilities and personnel.

## APPENDIX G

[From Nutrition Today, March/April 1975]

### HOSPITAL MALNUTRITION

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*No one is certain if hospital induced malnutrition has always been with us and is just now being recognized by newly nutrition conscious physicians or whether it is an unexpected byproduct of the sophisticated food service systems now popular in institutions. Regardless of etiology, hospital malnutrition is a prevalent health problem with serious professional and legal implications. The following instructional essay tells how to recognize undernourished, malnourished, or starving patients. It is the result of the combined effort of two teams of professionals. It was nearly a year in preparation. Its reliable guidelines should be useful in every hospital.*

*To make this vital information useful to all, this article is also available as a Nutrition Today Teaching Aid.*

(By Charles E. Butterworth, M.D. and George L. Blackburn, M.D., Ph.D.\*)

Three recent developments make it important that physicians, dietitians, nurses, administrators, and in fact all persons involved in patient care, become aware of the nutritional status of the hospital patient.

First, there is the recognition that an alarming number of people in hospitals are malnourished and that this condition is preventable in many cases.

Second, more and more health professionals are beginning to appreciate the fact that good nutrition plays a major role in wound healing and in heightening resistance to infection.

Lastly, new techniques and products have been developed which greatly enhance the ability to provide nutritional support to the patient.

One might wish to extend this list of developments that call for greater awareness of the nutritional health of hospitalized patients. Among such points would be that because of the level of current food prices it is likely that more poor people and indigent elderly are apt to be undernourished when they enter the hospital. On the other hand, moreover, with the current high costs of hospitalization, there is every incentive for shortening the period of confinement by preventing complications and hastening convalescence, as proper attention to the patients' nutritional health will surely do.

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\*Dr. Butterworth is Professor of Medicine and Director of the Nutrition Program at the University of Alabama in Birmingham. He also served as Chairman of the Council on Foods and Nutrition of the American Medical Association. Dr. Blackburn is Assistant Professor of Surgery at Harvard Medical School in Cambridge, Mass. and Director of the Nutrition Support Service at the Boston City Hospital and the New England Deaconess Hospital in Boston. The authors desire to point out that this work was a group endeavor and is the result of the application of the extraordinary talents of the staff of the Nutrition Program in Birmingham and the Nutrition Support Service in Boston. Special recognition is due Carlos L. Krumdieck in Birmingham for his contribution of photo material. In Boston, credit is shared by Bruce L. Bistrian, Graham Page, Daniel Sigman and Joseph Vitale.

Our purpose here is to outline some simple and practical methods for the assessment of nutritional status. Most of these can be applied without complicated laboratory equipment and they should be available in hospitals of all sizes, clinics, and even in doctor's offices. Many of the procedures involve nothing more than the application of basic clinical skills, careful inspection of the patient with nutrition in mind, and the use of analytical interviews of the nature described.

No attempt will be made to outline programs of nutritional support or therapy. The major intent here is to suggest methods and guidelines that will make it easier to identify those patients who are in need of nutritional intervention.

Not the least of our purposes in presenting these guidelines is the hope that some of the following suggestions will result in improved systems for dealing with nutrition services in hospitals according to local requirements. As Dr. Meiling aptly pointed out (*Nutrition Today*, May/June 1974), "This (hospital malnutrition) is not only the doctor's and dietitian's problem, it is also the administrator's problem." He also noted that the root cause of hospital induced malnutrition lies in the hospital system and until that's changed, patients are going to suffer.

#### RARE CURIOSITIES

It is our belief that malnutrition has for too long been identified with the "classical" vitamin deficiency syndromes by physicians and other health professionals. Although these far-advanced syndromes are occasionally encountered and should not be missed, overt vitamin deficiencies are best regarded as rare medical curiosities. By contrast, protein-calorie malnutrition, which henceforward will be referred to by the abbreviation "PCM", which develops in the hospital, has been found to affect from one-fourth to one-half of medical and surgical patients whose illness has required hospitalization for two weeks or more. Therefore, high priority should be given to the identification and prevention of PCM.

Patients with malnutrition, particularly protein-calorie malnutrition, do not tolerate concurrent illness well. They tend to have delayed wound healing and greater susceptibility to infection and other complications so that the period of hospitalization may be considerably prolonged. It is perhaps paradoxical that for twenty-five years or more a certain preoccupation with fluid and electrolytes, vitamins, hormones, and blood gases has appeared to divert the average clinician's attention from two of the most fundamental requirements of every patient: adequate protein and sufficient calories. Why has this occurred? The reason probably is that there is no single anthropometric or biochemical measurement to define the exact extent of PCM.

Nevertheless, as with any other complex pathological process, the patient in whom PCM is suspected, should be evaluated using a number of accurate methods and techniques that have proved both valuable and practical in our experience for the assessment of a patient's nutritional status (and risk). Considerable emphasis will be placed on PCM because of the prevalence of the problem. However, it is believed that the procedures to be described are sufficiently comprehensive to permit identification of most of the common nutritional disorders that are likely to be encountered in a hospital population.

It should be a simple matter, except in emergency situations, to obtain rather quickly an estimate of a patient's nutritional health when he is admitted to the hospital. Such an estimate should be an essential part of the admitting process. It can be carried out by the clerical staff, nurses, laboratory personnel or others. In this regard in addition to inquiring as to the patient's usual height and weight, it is essential that the patient should be weighed and his height measured. Asking the patient for this information is not sufficient because, for a variety of reasons, the reply will very likely be inaccurate and two valuable benchmarks of nutritional health will be lost. The actual measurements should be recorded alongside the desirable weight according to some suitable standard such as Metropolitan Life Insurance tables. The physician should bear responsibility for reviewing this information along with admission laboratory work.

### EVERYONE'S DUTY

It should be the duty of every person involved in the patient's care, to ensure that crucial data are recorded and available for interpretation. Patients at high risk of malnutrition or having particular nutritional problems should be identified within twenty-four hours by a notation made in the patient's permanent hospital record. We believe that this information should be communicated simultaneously and directly to a Nutrition Support Service or to other appropriate authorities having responsibility for this aspect of patient care. But since it is an unusual hospital indeed that has yet organized a Nutrition Support Service, our suggestion is that in the absence of such a service, the matter be referred to the staff member most interested in nutrition and to the dietitians.

The attending physician must bear the ultimate responsibility for determining the patient's nutritional requirements and providing a means to supply them under the circumstances dictated by the clinical situation. His function is catalytic since without his initiative the ancillary resources of the hospital cannot be activated on behalf of the patient. Only on his signal can the special skills of nurses, dietitians, pharmacists and consultants be brought to bear on the problem at hand. If these services are inadequate, the physician resolutely should send the patient to another hospital capable of providing whatever nutritional support services are necessary to sustain the patient during his illness. It is the responsibility of the physician to review promptly all nutrition-related information provided to him by various staff members combined with his own observations and preliminary laboratory results. This should form an important part of the patient's "data base." In the case of problem-oriented records, specific nutrition problems should be itemized on the problem list.

### THREE ALLIES

For the assessment of a patient's nutritional status, the physician has three traditional allies: *the history, the physical examination, and the laboratory findings.*

Table 1 represents a check list of the more important points to be covered in the patient's history. As will be seen, the answers to these simple questions can be recorded by paramedical personnel, or family

members, or possibly even by the patient himself. While this list is not exhaustive, it will serve as a screen from which one can spot warning signals. In our experience, even one "Yes" answer should alert the physician and his staff to the presence of a person with a potential nutritional problem. Several affirmative answers immediately suggest the need for special studies, special consultations, and possibly preparation for special support measures.

Part 2 of this table outlines contributions that can be made by members of the dietetic staff. Very often the skilled questioning of an experienced dietitian can uncover unexpected facts about the patient and his food consumption patterns, either under home conditions or under the conditions of the current health problem. Careful inquiry may be necessary to determine if patients truly understand prior dietary instructions and the dietitian should be adept at eliciting these.

Part 3 of the table indicates the contribution that the nursing staff can be called upon to make. In this connection, the need to have regular and accurate recordings of the body weight cannot be overemphasized. Weight is perhaps the most important single piece of information that can be provided as to the patient's nutritional status. The nursing staff is also in a unique position to maintain a constant surveillance of the patient's activities, behavior, and food consumption. Nurses are very careful to take note and record the medicines a patient takes: in some patients, the record of nutrient intake is every bit as important as the notation of drugs he has been given. If our modern hospitals are to be rid of the spectre of hospital induced malnutrition, then at least some method has to be found to note and record how well a patient eats. Whenever a patient is suspected of becoming malnourished, a glance at his finished meal tray is of great importance. The impression is an indispensable part of his hospital record.

The nursing staff's observations of a patient during the entire 24-hour day may provide invaluable information regarding nutrient intake, adherence to dietary instructions, or dietary indiscretions. For example, it can be quite helpful to learn about the midnight snack consumed by the patient on a low calorie diet; the forbidden potato chips and salted peanuts eaten by the patient on a sodium-restricted diet; or the candy bar consumed by the diabetic. Similarly the recognition of surreptitious vomiting has occasionally helped explain an otherwise puzzling case of suspected malabsorption.

Table 2 outlines some of the more prominent physical findings that the physician should look for when he is making a nutritional evaluation. This is where the skilled and experienced eye of the astute clinician is invaluable. Certainly it should be his task to search for physical evidence in suspected problem areas and to correlate physical findings with the history. A conscientious and thorough physical examination for nutritional adequacy or inadequacy should be a routine part of every patient's workup and should require no special indications or justification. The history and physical examination should enable the physician not only to identify existing problems and treat them, but also to anticipate problems and prevent them.

#### USEFUL INDICATORS

Measurement of the tricep skinfold techniques has proven to be a helpful indicator of nutritional status. The proper technique is to

grasp a fold of skin on the posterior aspect of the arm midway between shoulder and elbow, gently pulling it away from the underlying muscle. The caliper is applied and the average of several readings is recorded on the chart. Either Lange or Harpenden calipers are suitable for this purpose, since they are designed to exert uniform pressure over a wide range of thicknesses.

The measurements of height and weight are, by far, the most useful indicators of nutritional status. In many cases they are the only indices available outside the hospital. Although rapid weight loss in a hospitalized patient is an extremely important index of change in protein nutritional status, since it usually reflects use of protein as a metabolic fuel (adipose tissue is lost more slowly owing to its high caloric content), a patient who is grossly obese may be above the desirable weight/height standards, yet suffer extreme protein-calorie malnutrition. Similarly, edema is a common feature in protein-calorie malnutrition and may give falsely high weight readings. Numerous other pathological states may also cause edema and interfere with nutritional assessment. However, edema usually indicates an underlying metabolic malfunction that must be taken into consideration in the overall nutritional assessment.

The choice of scales is most important. Spring balance scales are not sufficiently accurate for this type of work and should not be used. The best type of balance scale is the beam or lever balance type, provided it is checked periodically. We usually weigh patients in indoor clothing. Patients who are unable to stand can be weighed on bed-scales. It is important to weigh patients daily at approximately the same time and under conditions that are as standardized as possible.

Cooperative children and adults are measured against the vertical measuring rod with a headpiece. Shoes are permitted allowing 1-inch heels for men and 2-inch heels for women. The lower border of the orbit should be in the same horizontal plane as the external auditory meatus and the arms should be by the sides. The bar of the headpiece should make contact with the scalp. Uncooperative children and bed-ridden patients may be measured recumbent using a wooden length board and perpendicular headpiece, or even a tape measure.

For calculation of ideal weight, we use the Metropolitan Life Insurance Company tables of desirable weight according to height and frame derived from the Build and Blood pressure study in 1959 (see Table 4). Appropriate allowances must be made if the patient is not wearing ordinary clothes or shoes.

So far, we have attempted to describe simple clinical procedures that should be widely available. There are a number of routine laboratory procedures available in most hospitals which can also yield remarkably accurate information about nutritional status. The key is merely the adoption of a slightly different perspective and a slightly modified approach to the interpretation of laboratory results. For example, abnormally low levels of prothrombin activity, serum calcium and serum carotene, may each have a separate explanation. Collectively, however, they may well be the result of abnormal fat absorption affecting the functional status of the patient with regard to the fat-soluble vitamins A, D, and K.

We wish to emphasize that there is nothing magical about nutritional assessment and there is no single specific test that will provide

all the answers. Nevertheless simple laboratory procedures available routinely in most hospitals, can yield highly useful information if the physician interprets them in their over-all relationship to the patient's nutritional status.

In addition to the simple tests already mentioned and presented in Table 1, there are a number of specialized procedures to aid in the precise characterization of status with regard to specific nutrients. Some are listed in Table 10. It should be borne in mind that many of these have been designed for screening studies in large populations and may have limited applicability to individual patients under unusual circumstances in the hospital. Recent therapy with minerals, drugs or vitamins may influence the outcome of laboratory studies. Certain antibiotics may inhibit growth of bacteria in bacterial assay systems for vitamins; contraceptive steroid agents may spuriously elevate vitamin A levels, reduce certain metal binding proteins, and lead to lowered circulating levels of folate, vitamin B<sub>12</sub>, and other vitamins in some cases. Clinical scurvy may exist in the presence of serum ascorbate levels that are only in the "marginal" range. As with virtually all laboratory tests, it is essential to know the vagaries of the procedure, and the clinical implications of the result in relation to a comprehensive analysis of the patient's current situation.

#### BODILY DEFENSE BREAKDOWN PARAMETERS

The body defenses are divided into 3 main categories.

(1) *Mechanical*—The body is protected from microbial invasion not only by intact epithelial surfaces, but also by mucous barriers, digestive enzymes and excretory antibodies present on such surfaces. These cells like all others, require an adequate supply of nutrients for their growth, turnover, and function.

(2) *Cellular*—Cellular defense mechanisms are mediated by a) lymphocytes and plasma cells, but their exact function and modes of action are not well understood and b) polymorphonuclear leukocytes which have the ability to ingest and destroy bacteria or foreign bodies.

(3) *Humoral*—Humoral defense mechanisms are mediated by gammaglobulins or other plasma proteins which aid in the destruction of micro-organisms. Some antibodies appear in secretions, for example, in tears, colostrum, and intestinal mucus.

There is ample recent evidence that in protein calorie malnutrition, all three defense mechanisms are impaired. Hence, in addition to other serious disorders, the body is open to infection at a time when it is least able to cope with it. Changes in humoral and cellular defenses in protein calorie malnutrition are the subject of considerable research at the moment.

#### METHODS OF EVALUATING BODILY DEFENSES

##### A. Quantitatively

(1) *Total white cell count* in a normal person is usually in the range of 5–10,000 per cubic mm.

(2) *Differential Counts*—(a) Lymphocytes usually account for 30% of the normal differential white count and they should be present in absolute numbers of at least 1,500/cubic mm. Lower levels indi-

cate impaired cellular defense mechanisms which occur in protein calorie malnutrition.

(b) Polymorphonuclear leukocytes usually account for 65% of the total white cell count. With pyogenic infection, a polymorphonuclear leukocytosis occurs and there is an increase in the proportion of non-segmented ("stab") forms. A failure to respond to pyogenic infection with a polymorphonuclear leukocytosis means a poor prognosis, especially in a protein calorie malnutrition.

(3) *Total Protein, Protein Electrophoresis*—Total protein 6–8 gm/100 ml

Albumin 50–65% Total = 3.0–4.5 gm/100 ml

Globulin (contains antibodies) 35–51%

Total 3.0–4.5 gm/100 ml

Transferrin (Siderophilin)—A beta-globulin which has been the subject of considerable interest as a parameter to judge protein calorie malnutrition.

The serum concentration of transferrin can be quantitated in the laboratory, but the procedure is not yet widely available. Depressed transferrin levels should be suspected whenever the total iron binding capacity (TIBC) is less than 250  $\mu\text{g}\%$ .

Recent work suggests that the plasma proteins synthesized with the highest priority during recovery from PCM are the immunoglobulins.

Next in priority are certain coagulation proteins, (prothrombin and proconvertin), pre-albumin, retinol-binding protein, and beta-lipoprotein apopeptide. Albumin, transferrin, and hemoglobin appear somewhat later. Further research is necessary to establish serum transferrin as a useful parameter in the assessment of nutritional status, but early results are encouraging.

### B. Qualitatively

(1) *Lymphocyte* quality evaluation can be carried out *in vitro* using a variety of techniques to determine their competency, such as their ability to undergo "blast-transformation" in response to phytohemagglutinin.

(2) *Polymorphonuclear leukocytes* can be qualitatively evaluated by incubating with bacteria to estimate phagocyte activity and killing ability after a certain time using special microscopic techniques. In these experiments, phosphate-depleted white blood cells are unable to migrate toward bacteria, an essential early step in resisting bacterial invasion.

The above tests are at the moment mainly research techniques and are not used in day to day assessments of nutritional status.

(3) *Delayed Hypersensitivity testing using Purified Protein Derivative*—(*Tuberculin*) *Candida Albicans* extract and *Dinitro-Chlorobenzene* contact Sensitization tests

Skin tests are carried out by conventional means utilizing *Tuberculin* (purified protein derivation). *Candida albicans* extract (Hollister-Stier) and dinitrochlorobenzene contact sensitization ("DNCB", Catalona technique). In general, a failure to respond with a positive reaction to any of these should be regarded as a possible manifestation of impaired cell-mediated immunity due to PCM. Precise confirma-

tion depends on the existence of either prior reactivity, or the restoration of reactivity upon nutritional repletion.

#### CATEGORIES OF MALNOURISHED PATIENTS

Essentially three types of protein-calorie malnutrition commonly occur:

1. *Adult kwashiorkor-like state*. A common syndrome is the well-nourished (or over-nourished) individual in whom the combination of severe catabolic stress and sub-standard intake of nutrients combine to depress selectively the level of visceral protein and immunologic competence. As in children, this kwashiorkor-like state evolves from a protein-deficient diet in which the calories delivered are primarily, or exclusively, in the form of carbohydrate. Due to the rapidity of onset, these patients tend to maintain their anthropometric measurements (weight/height, triceps skinfold, and arm circumference) despite severe depression of serum proteins, such as transferrin and albumin. Edema is a common feature because of hypoalbuminemia and altered electrolyte metabolism. Associated with this visceral protein depletion is a depression of cellular immune function as measured by delayed hypersensitivity skin testing, lymphocyte counts, and humoral and leukocyte competence.

2. *Adult marasmus or chronic inanition*. The marasmus-type picture of chronic illness is characterized in adults by decreased anthropometric measurements in the presence of normal serum albumin. It represents a more prolonged and gradual wasting of muscle mass and subcutaneous fat due to inadequate intake of protein and calories. Unlike the kwashiorkor-like state which is dependent upon biochemical assessment for identification, this group of patients may be readily assessed by most anthropometric measurements, or even by visual inspection.

3. *Marasmic "kwashiorkor-like"*. This may be regarded as a far-advanced stage of chronic inanition combining some of the clinical features of the other two types. It is an extremely serious, life-threatening situation because of the high risk of complications, infectious and otherwise. The typical patient is one who has mobilized reserves of fat and lean-body mass for a prolonged period in an unsuccessful effort to recover from chronic illness or injury. Ultimately, these reserves are exhausted, or additional catabolic stress occurs. Rapid depression of visceral protein synthesis then supervenes. Clinically, this may be signalled by the onset of hypoalbuminemia, the appearance of edema, decline of immunologic competence and evidence of deterioration in the function of multiple organ systems. The necessity for vigorous nutritional therapy is much more urgent and the care is much more complex in this situation than in either of the other states.

It is of the utmost importance to appreciate these three malnutrition categories in making nutritional assessment in order to develop the required nutritional support plan. Briefly an adult with kwashiorkor has adequate reserves of fat and skeletal muscle that can contribute to his needs, if he is given appropriate amounts of fluid, electrolytes, vitamins, minerals and enough protein to offset obligatory nitrogen losses associated with the illness or injury. Alternative intravenous and post-operative diets have recently been developed which minimize

these losses and conserve visceral protein, by providing an exogenous supply of calories and amino acids.

The adult marasmic patient can benefit from vigorous oral feeding programs, if adequate time is available and if depletion is not far-advanced. Generally speaking, however, patients who are more than 20 or 30% below desirable weight, cannot recover on an ordinary meal pattern and must have aggressive support (such as around-the-clock tube feedings, gastrostomy, or substantial intravenous supplementation.)

The third category of marasmic, "kwashiorkor-like" patients requires vigorous hyperalimentation, either oral or parenteral or both. Nutritional support must be given promptly, if significant morbidity and mortality are to be avoided.

This has been an attempt to present, in a form suitable for general use, some simple and widely-available procedures for the assessment of nutritional status of hospitalized patients. We are aware that malnutrition is often a complex medical and socio-economic problem, and that our approach may err on the side of over-simplification. Nevertheless it is our hope that more widespread use of even these simple clinical and laboratory methods of assessment will bring about greater appreciation for the importance of good nutrition in the maintenance of health and recovery from illness or injury. Furthermore, it is our conviction that simple adherence to basic diagnostic and therapeutic principles of nutrition will lead to great improvements in the overall quality of health care in our hospitals. More than that!—At times the results will seem nothing short of astonishing.

TABLE 1.—CHECK LIST FOR ASSESSMENT OF NUTRITIONAL STATUS

Part I

(To be completed by trained staff member, physician's assistant, or other)

	Yes	No
Usual body weight 20% above or below desirable?.....		
Recent loss or gain of 10% of usual body weight?.....		
Any evidence that income and meals are not adequate for needs?.....		
More than half of meals eaten away from home?.....		
Does patient live alone and prepare own meals?.....		
Ill fitting dentures?.....		
Excessive use of alcohol?.....		
Frequent use of fad diets, or monotonous diets?.....		
Any chronic disease of GI tract? (describe).....		
Has there been any surgical procedure on GI tract (other than appendectomy)? (describe).....		
Recent major surgery, illness, or injury?.....		
Recent use of large doses of:		
catabolic steroids?.....		
immunosuppressants? .....		
anti-tumor agents?.....		
anti-convulsants? .....		
anti-biotics? .....		
oral contraceptives?.....		
vitamins? .....		
other? .....		
Has patient been maintained more than 10 days on intravenous fluids?.....		
Any reason to anticipate that patient will be unable to eat for 10 days or longer?.....		

Is patient known to have:

diabetes? \_\_\_\_\_  
 hypertension? \_\_\_\_\_  
 hyperlipidemia? \_\_\_\_\_  
 coronary artery disease? \_\_\_\_\_  
 malabsorption? \_\_\_\_\_  
 chronic lung disease? \_\_\_\_\_  
 chronic renal disease? \_\_\_\_\_  
 chronic liver disease? \_\_\_\_\_  
 circulatory problem or heart failure? \_\_\_\_\_  
 neurological disorder or paralysis? \_\_\_\_\_  
 mental retardation? \_\_\_\_\_

(Note: If all answers to the above items are "No", the patient may be regarded as a "low-risk" or "acceptable risk." The risk increases in direct proportion to the number of "Yes" answers. Patients with more than 3 "Yes" answers should be considered at an increased risk of developing medical complications, unless special attention is given to providing their nutritional requirements.)

## Part II

*(To be completed by dietitian)*

Description of recent food consumption patterns, eating habits, and meal composition.  
 Circumstances of food purchase, storage and preparation in the home.  
 Estimate of daily average caloric consumption.  
 Estimate of energy expenditure (e.g. low, average, or high level of physical activity).  
 Estimate of possible nutrient deficiencies, based on suspected imbalances.  
 Food tray viewed.

## Part III

*(To be completed by nursing staff)*

Estimate of actual food consumption, including any provided by non-hospital sources.  
 Estimate of fluid intake.  
 Estimate of stool frequency, urinary losses, losses by suction tube, drainage, etc.  
 Behavior patterns, eccentricities, vomiting (including surreptitious vomiting).  
 Careful recording of body weight at regular intervals.

TABLE 2.—THE PHYSICAL EXAMINATION

General appearance—obese? skinny?  
 Head—bossing, deformities, craniotabes (under 1 year old)  
 Eyes—ophthalmoplegia, cataracts, xerosis, Bitot's spots, retinal hemorrhage, papilledema, night blindness  
 Mouth—glossitis, gingivitis, caries, periodontal disease, cheilosis, ageusia, dysgeusia  
 Nose—anosmia, dysosmia, nasolabial seborrhea  
 Skin—pallor, abnormal pigmentation (carotenemia, hemochromatosis), follicular hyperkeratosis, bruises, peri-follicular petechiae, pellagrous dermatitis, flaky-paint dermatitis, fistulas, status of wound healing, subcutaneous fat and skin-fold thickness, edema  
 Hair—easy-pluckability, sparseness, depigmentation  
 Nails—friability, bands and lines  
 Neck—goiter  
 Heart—enlargement, high-output failure, resting tachycardia  
 Lungs—none? Use of accessory muscles to breathe?  
 Abdomen—enlarged (fatty) liver, distended loops of bowel, ascites, varices  
 Genito-urinary—secondary sexual characteristics, hypogonadism, delayed onset of puberty  
 Skeletal—epiphyseal thickening, bowing, rachitic rosary, osteoporosis, frog leg position, tenderness  
 Muscle—atrophy, wasting, hemorrhage, pain  
 Joints—effusions, arthralgia  
 Neurol—foot drop, confabulation, improper position and vibratory sense, hyper-reflexia, hyporeflexia, irritability, convulsions

TABLE 3.—EXAMPLES OF SOME "HIGH-RISK" PATIENTS

1. Patients who are grossly overweight, or grossly underweight (the former because of a tendency on the part of some physicians to overlook protein requirements; the latter because of limited protein reserves in organs and lean body mass)
2. Any patient with prior maldigestion, malabsorption, or inadequate nutrient intake, e.g.
  - a. pancreatic insufficiency
  - b. celiac disease, Crohn's disease; surgical removal of portions of stomach or small bowel; small bowel by-pass, congenital malformations of GI tract
  - c. chronic alcoholism, anorexia nervosa; any form of dietary faddism or abuse
  - d. patients maintained for more than 10 days on simple solutions of glucose and saline
3. Patients with increased metabolic requirements, e.g. fever, infection, trauma, hyperthyroidism, pregnancy, burns, infancy
4. Patients with external losses, e.g. draining fistulas, wounds, abscesses, effusions, exudative enteropathies, chronic blood loss; chronic renal dialysis
5. Any patient who is likely to be unable to consume adequate amounts of food for 10 days (especially if reserves are limited), e.g. head and neck trauma; injury or surgery involving GI tract.

TABLE 4.—DESIRABLE WEIGHTS FOR MEN AND WOMEN

[According to height and frame, ages 25 and over]

Height (in shoes)	Weight in pounds (in indoor clothing)		
	Small frame	Medium frame	Large frame
<b>Men:</b>			
5 ft 2 in.....	112-120	118-129	126-141
5 ft 3 in.....	115-123	121-133	129-144
5 ft 4 in.....	118-126	124-136	132-148
5 ft 5 in.....	121-129	127-139	135-152
5 ft 6 in.....	124-133	130-143	138-156
5 ft 7 in.....	128-137	134-147	142-161
5 ft 8 in.....	132-141	138-152	147-166
5 ft 9 in.....	136-145	142-156	151-170
5 ft 10 in.....	140-150	146-160	155-174
5 ft 11 in.....	144-154	150-165	159-179
6 ft.....	148-158	154-170	164-184
6 ft 1 in.....	152-162	158-175	168-189
6 ft 2 in.....	156-167	162-180	173-194
6 ft 3 in.....	160-171	167-185	178-199
6 ft 4 in.....	164-175	178-190	182-204
<b>Women:</b>			
4 ft 10 in.....	92-98	96-107	104-119
4 ft 11 in.....	94-101	98-110	106-122
5 ft.....	96-104	101-113	109-125
5 ft 1 in.....	99-107	104-116	112-128
5 ft 2 in.....	102-110	107-119	115-131
5 ft 3 in.....	105-113	110-122	118-134
5 ft 4 in.....	108-116	113-126	121-138
5 ft 5 in.....	111-119	116-130	125-142
5 ft 6 in.....	114-123	120-135	129-146
5 ft 7 in.....	118-127	124-139	133-150
5 ft 8 in.....	122-131	128-143	137-154
5 ft 9 in.....	126-135	132-147	141-158
5 ft 10 in.....	130-140	136-151	145-163
5 ft 11 in.....	134-144	140-155	149-168
6 ft.....	138-148	144-159	153-174

Note: 1 in heels for men and 2 in heels for women.

Source: Prepared by the Metropolitan Life Insurance Co. (1960) derived primarily from data of the "Build and Blood Pressure Study 1959."

TABLE 5a.—TRICEPS SKIN-FOLD, BIRTH TO 60 MONTHS, SEXES SEPARATE <sup>1</sup>

Age (months)	Triceps skin-fold (millimeter)									
	Standard		90 percent standard		80 percent standard		70 percent standard		60 percent standard	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Birth.....	6.0	6.5	5.4	5.9	4.8	5.2	4.2	4.6	3.6	3.9
6.....	10.0	10.0	9.0	9.0	8.0	8.0	7.0	7.0	6.0	6.0
12.....	10.3	10.2	9.3	9.2	8.2	8.2	7.2	7.1	6.2	6.1
18.....	10.3	10.2	9.3	9.2	8.2	8.2	7.2	7.1	6.2	6.1
24.....	10.0	10.1	9.0	9.1	8.0	8.1	7.0	7.1	6.0	6.1
36.....	9.3	9.7	8.4	8.7	7.5	7.8	6.5	6.8	5.6	5.8
48.....	9.3	10.2	8.4	9.2	7.5	8.2	6.5	7.2	5.6	6.1
60.....	9.1	9.4	8.2	8.5	7.3	7.5	6.4	6.6	5.5	5.7

<sup>1</sup> Adapted from Hammond (1955a); Tanner & Whitehouse (1962).TABLE 5b.—TRICEPS SKIN-FOLD, 5 TO 15 YEARS, SEXES SEPARATE <sup>1</sup>

Age (years)	Triceps skin-fold (millimeter)									
	Standard		90 percent standard		80 percent standard		70 percent standard		60 percent standard	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
5.....	9.1	9.4	8.2	8.5	7.3	7.5	6.4	6.6	5.5	5.7
6.....	8.2	9.6	7.4	8.6	6.6	7.7	5.8	6.7	4.9	5.8
7.....	7.9	9.4	7.1	8.5	6.3	7.5	5.5	6.6	4.7	5.7
8.....	7.6	10.1	6.8	9.1	6.1	8.1	5.3	7.1	4.5	6.1
9.....	8.2	10.3	7.4	9.2	6.6	8.2	5.8	7.2	4.9	6.2
10.....	8.2	10.4	7.4	9.3	6.6	8.3	5.7	7.3	4.9	6.2
11.....	8.9	10.6	8.1	9.6	7.2	8.5	6.3	7.5	5.4	6.4
12.....	8.5	10.1	7.6	9.1	6.8	8.1	5.9	7.0	5.1	6.0
13.....	8.1	10.4	7.3	9.4	6.5	8.3	5.7	7.3	4.9	6.2
14.....	7.9	11.3	7.1	10.1	6.3	9.0	5.5	7.9	4.8	6.8
15.....	6.3	11.4	5.7	10.2	5.0	9.1	4.4	8.0	3.8	6.8

<sup>1</sup> Adapted from Hammond (1955a).

TABLE 5c.—TRICEPS SKIN-FOLD, ADULTS SEXES SEPARATE

Sex	Triceps skin-fold (millimeter)				
	Standard	90 percent standard	80 percent standard	70 percent standard	60 percent standard
Male.....		12.5	11.3	10.0	8.8
Female.....		16.5	14.9	13.2	11.6

TABLE 6a.—ARM CIRCUMFERENCE, 6 TO 17 YEARS, SEXES SEPARATE <sup>1</sup>

Age (years)	Arm circumference (centimeter)									
	Standard		90 percent standard		80 percent standard		70 percent standard		60 percent standard	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
6.....	17.3	17.3	15.6	15.5	13.8	13.8	12.1	12.1	10.4	10.4
7.....	17.8	17.8	16.0	16.0	14.2	14.2	12.5	12.5	10.7	10.7
8.....	18.4	18.4	16.5	16.6	14.7	14.7	12.9	12.9	11.0	11.1
9.....	19.0	19.1	17.1	17.2	15.2	15.3	13.3	13.4	11.4	11.5
10.....	19.7	19.9	17.7	17.9	15.8	15.9	13.8	13.9	11.8	11.9
11.....	20.4	20.7	18.4	18.6	16.3	16.5	14.3	14.5	12.2	12.4
12.....	21.2	21.5	19.1	19.3	16.9	17.2	14.8	15.0	12.7	12.9
13.....	22.2	22.4	20.0	20.2	17.7	17.9	15.5	15.7	13.3	13.4
14.....	23.2	23.2	20.9	20.9	18.6	18.5	16.3	16.2	13.9	13.9
15.....	25.0	24.4	22.5	22.0	20.0	19.5	17.5	17.1	15.0	14.6
16.....	26.0	24.7	23.4	22.2	20.8	19.7	18.2	17.3	15.0	14.8
17.....	26.8	24.9	24.1	22.3	21.4	19.9	18.8	17.4	16.1	14.9

<sup>1</sup> Adapted from O'Brien Girshik & Hunt (1941).

TABLE 6b.—ARM CIRCUMFERENCE,\* ADULTS, SEXES SEPARATE

	Arm circumference (centimeter)				
	Standard	90 percent standard	80 percent standard	70 percent standard	60 percent standard
Male.....	29.3	26.3	23.4	20.5	17.7
Female.....	28.5	25.7	22.8	20.0	17.7

Adapted from O'Brien &amp; Shelton (1941). Hertzberg et al (1963).

TABLE 7a.—MID-ARM-MUSCLE CIRCUMFERENCE. 6 TO 60 MONTHS. SEXES SEPARATE

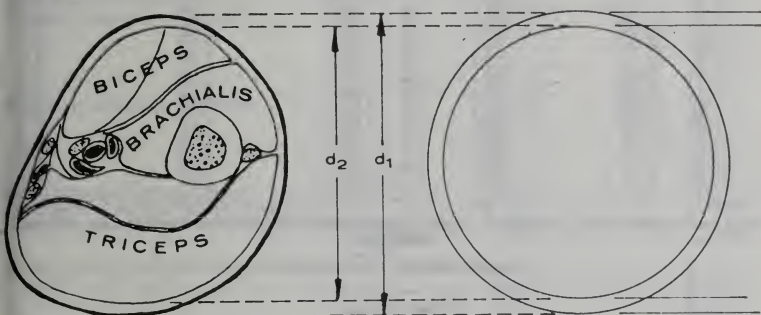
Age (months)	Mid-arm-muscle circumference (centimeter)									
	Standard		90 percent standard		80 percent standard		70 percent standard		60 percent standard	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
6.....	11.4	11.2	10.3	10.1	9.1	9.0	8.0	7.8	6.8	6.7
12.....	12.7	12.4	11.4	11.2	10.2	9.9	8.9	8.7	7.6	7.5
18.....	12.9	12.5	11.6	11.3	10.3	10.1	9.0	8.8	7.7	7.6
24.....	13.1	12.8	11.8	11.5	10.5	10.2	9.2	9.0	7.9	7.8
36.....	13.3	12.9	12.0	11.6	10.3	10.3	9.3	9.0	8.0	7.9
48.....	14.0	13.7	12.6	12.3	11.2	11.0	9.8	9.6	8.4	8.3
60.....	14.1	13.9	12.7	12.5	11.3	11.1	9.9	9.7	8.5	8.4

TABLE 7b.—MUSCLE CIRCUMFERENCE. 6 TO 15 YEARS. SEXES SEPARATE

Age (years)	Muscle circumference (centimeter)									
	Standard		90 percent standard		80 percent standard		70 percent standard		60 percent standard	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
6.....	14.7	14.2	13.2	12.8	11.8	11.4	10.3	9.9	8.8	8.7
7.....	15.3	14.8	13.8	13.3	12.2	11.8	10.7	10.4	9.2	9.1
8.....	16.0	15.3	14.4	13.8	12.8	12.8	11.2	10.7	9.6	9.5
9.....	16.5	15.9	14.9	14.3	13.2	12.7	11.6	11.1	9.9	9.8
10.....	17.1	16.6	15.4	14.9	13.7	13.3	12.0	11.6	10.3	10.2
11.....	17.6	17.3	15.8	15.6	14.1	14.1	12.3	12.1	10.6	10.5
12.....	18.5	18.3	16.6	16.5	14.8	14.6	12.9	12.8	11.1	11.0
13.....	19.6	19.1	17.6	17.2	15.7	15.3	13.7	13.4	11.8	11.7
14.....	20.8	19.6	18.7	17.6	16.6	15.7	14.6	13.7	12.5	12.4
15.....	23.0	20.8	20.7	18.7	18.4	16.6	16.1	14.6	13.8	12.7

TABLE 7c.—MUSCLE CIRCUMFERENCE. ADULTS. SEXES SEPARATE

Sex	Muscle circumference (centimeter)				
	Standard	90 percent standard	80 percent standard	70 percent standard	60 percent standard
Male.....	25.3	22.8	20.2	17.7	15.2
Female.....	23.2	20.9	18.6	16.2	13.9



This reflects both caloric adequacy and muscle mass.

We have found the mid upper arm to be the most useful place and to give the optimal results. A soft tape measure calibrated in cm is used. It is placed around the left arm of its mid point (in the same place as previously described for triceps skinfold). It should be firmly wrapped around, but without compression of the underlying muscle.

#### CALCULATION OF MID-UPPER-ARM-MUSCLE CIRCUMFERENCE

This is derived from the mid upper arm circumference by means of a formula (from Jelliffe, 1966). (The diameter of the humerus is assumed to be constant.)

$C_1$  = mid upper arm circumference in cm

$S$  = triceps skinfold in cm

$d_1$  = arm diameter

$d_2$  = muscle diameter

$r$  = radius

Skinfold  $S = 2 \times$  subcutaneous fat  
 $= d_1 - d_2$

Circumference  $C_1 = 2\pi r$   
 $= \pi d_1$

Muscle Circumference  $C_2 = 2\pi$  cm  
 $= \pi d_2$  cm  
 $= \pi(d_1 - (d_1 - d_2))$  cm  
 $= \pi d_1 - \pi(d_1 - d_2)$  cm  
 $= C_1 - \pi S$  cm

TABLE 8.—REFERENCE TABLE FOR MEN OF IDEAL WEIGHT FOR THEIR HEIGHT OF URINARY CREATININE/CM BODY HEIGHT

[Creatinine coefficient—23 mg/kg/body weight]

Height		Centimeters	Medium frame, ideal weight		Total milligrams creatinine/24 hr	Milligrams creatinine/centimeter body height/24 hr
Feet	Inches		Pounds	Kilograms		
5	2	157.5	124	56.0	1,288	8.17
5	3	160.0	127	57.6	1,325	8.28
5	4	162.6	130	59.1	1,359	8.36
5	5	165.1	133	60.3	1,386	8.40
5	6	167.6	137	62.0	1,426	8.51
5	7	170.2	141	63.8	1,467	8.62
5	8	172.7	145	65.8	1,513	8.76
5	9	175.3	149	67.6	1,555	8.86
5	10	177.8	153	69.4	1,596	8.98
5	11	180.3	158	71.4	1,642	9.11
6	0	182.9	162	73.5	1,691	9.24
6	1	185.4	167	75.6	1,739	9.38
6	2	188.0	171	77.6	1,785	9.49
6	3	190.5	176	79.6	1,831	9.61
6	4	193.0	181	82.2	1,891	9.80

TABLE 9.—REFERENCE TABLE FOR WOMEN OF IDEAL WEIGHT FOR THEIR HEIGHT OF URINARY CREATININE/CM BODY HEIGHT

[Creatinine coefficient—18 mg/kg/body weight]

Height		Centimeters	Medium frame, ideal weight		Total milligrams creatinine/24 hr	Milligrams creatinine/centimeter body height/24 hr
Feet	Inches		Pounds	Kilograms		
4	10	147.3	101.5	46.1	830	5.63
4	11	149.9	104.0	47.3	851	5.68
5	0	152.4	107.0	48.6	875	5.74
5	1	154.9	110.0	50.0	900	5.81
5	2	157.5	113.0	51.4	925	5.87
5	3	160.0	116.0	52.7	949	5.93
5	4	162.6	119.5	54.3	977	6.01
5	5	165.1	123.0	55.9	1,006	6.09
5	6	167.6	127.5	58.0	1,044	6.23
5	7	170.2	131.5	59.8	1,076	6.32
5	8	172.7	135.5	61.6	1,109	6.42
5	9	175.3	139.5	63.4	1,141	6.51
5	10	177.8	143.5	65.2	1,174	6.60
5	11	180.3	147.5	67.0	1,206	6.69
6	0	182.9	151.5	68.9	1,240	6.78

TABLE 10.—SPECIAL LABORATORY TESTS OF VALUE IN NUTRITIONAL ASSESSMENT

Nutrient and units	Age of subject (years)	Deficient	Criteria of status marginal	Acceptable
Serum ascorbic acid <sup>1</sup> (mg/100 ml).....	All ages.....	Up to 0.1.....	0.1-0.19	0.2 plus.
Plasma vitamin A <sup>1</sup> (mcg/100 ml).....	do.....	Up to 10.....	10-19	20 plus.
Plasma carotene (mcg/100 ml) <sup>1</sup> .....	do.....	Up to 20.....	20-39	40 plus.
	Pregnant.....		40-79	80 plus.
Serum folacin <sup>2</sup> (ng/ml).....	All ages.....	Up to 2.....	2.1-5.9	6.0 plus.
Serum vitamin B <sup>12</sup> <sup>2</sup> (pg/ml).....	do.....	Up to 100.....		100 plus.
Thiamine in urine (mcg/g creatinine) <sup>1</sup> .....	1 to 3.....	Up to 120.....	120-175	175 plus.
	4 to 5.....	Up to 85.....	85-120	120 plus.
	6 to 9.....	Up to 70.....	70-180	180 plus.
	10 to 15.....	Up to 55.....	55-150	150 plus.
	16 plus.....	Up to 27.....	27-65	65 plus.
	Pregnant.....	Up to 21.....	21-49	50 plus.
Riboflavin in urine (mcg/g creatinine) <sup>1</sup> .....	1 to 3.....	Up to 150.....	150-199	500 plus.
	4 to 5.....	Up to 100.....	100-299	300 plus.
	6 to 9.....	Up to 85.....	85-269	270 plus.
	10 to 16.....	Up to 70.....	70-199	200 plus.
	16 plus.....	Up to 27.....	27-79	80 plus.
	Pregnant.....	Up to 30.....	30-89	90 plus.
RBC Transketolase-TPP-effect (ratio) <sup>2</sup> .....	All ages.....	25 plus.....	15-25	Up to 15.
RBC glutathione reductase-FAD-effect (ratio) <sup>2</sup> .....	do.....	12 plus.....		Up to 1.2.
Tryptophan Load (mg Xanthurenic acid excreted) <sup>2</sup> .....	Adults: (dose: 100 mg/kg body weight).....	25+ (6 hr).....		Up to 25.
		75+ (24 hr).....		Up to 75.
Urinary pyridoxine <sup>2</sup> (mcg/g creatinine).....	1 to 3.....	Up to 90.....		90 plus.
	4 to 6.....	Up to 80.....		80 plus.
	7 to 9.....	Up to 60.....		60 plus.
	10 to 12.....	Up to 40.....		40 plus.
	13 to 15.....	Up to 30.....		30 plus.
	16 plus.....	Up to 20.....		20 plus.
Urinary n'methyl nicotinamide <sup>1</sup> (mg/g creatinine).....	All ages.....	Up to 0.2.....	0.2-5.59	0.6 plus.
	Pregnant.....	Up to 0.8.....	0.8-2.49	2.5 plus.
Urinary pantothenic acid (mcg) <sup>2</sup> .....	All ages.....	Up to 200.....		200 plus.
Plasma vitamin E (mg/100 ml) <sup>2</sup> .....	do.....	Up to 0.2.....	0.2-0.6	0.6 plus.

<sup>1</sup> Adapted from the 10 State Nutrition Survey.<sup>2</sup> Criteria may vary with different methodology.

Source: Derived from Table of Current Guidelines for Criteria. Nutritional Status for Laboratory Evaluation in Nutritional Assessment in Health Programs. Am J. Public Health (Supp.) 63: 34, 1973, G. Christakis, editor. Also see: Sauberlich, H. E., Dowdy, R. P. and Skala, J. H. Laboratory Tests for the Assessment of Nutritional Status. Critical Reviews, Clinical Laboratory Science 4: 215-340, 1973.

## APPENDIX H

[From the Lutheran General Hospital, Park Ridge, Ill.]

### OUTPATIENT NUTRITION COUNSELING

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The Nutrition Section of Lutheran General Hospital is providing individualized diet counseling on an outpatient basis. During these counseling sessions, a clinical nutritionist evaluates medical background she receives from your office and a nutrition history she obtains from your patient to develop a diet modification program geared to your patient's individual needs and preferences. To meet basic needs of nutritional care, as well as to evaluate the patient's understanding and ability to manage his diet, we include at least one follow-up session with the patient after his initial diet instruction.

#### ELIGIBILITY

Patients are eligible for diet counseling by physician referral. Counseling is available for any diet modification. It is geared to assist the patient to assume responsibility for his diet through understanding the reasons for the modifications, and the results he can expect from adhering to the program outlined for him. Teaching tools have been developed which correlate his physical condition with the prescribed modifications. Diet lists of "do's and don'ts" are not given out without supportive counseling.

#### APPOINTMENT TIMES

Monday thru Thursday, 7:30 A.M. to 8:30 P.M.  
Friday, 7 to 5:30. 2 Saturdays per month.

#### APPOINTMENT SCHEDULING

Your patient must make his appointment through Outpatient Registration (COR) 696-5050. COR will furnish the patient with information regarding available appointment hours, location of the outpatient nutrition office and fees for counseling. If necessary cancellations must be made 24 hours prior to the scheduled appointment time.

#### REFERRAL NOTES

To assist us in making an initial assessment of your patient's nutrition needs, we request results of any pertinent, recent lab work you may have on file for your patient. The accompanying Requisition Form can be used to record this information. This form also explains to your patient how he may obtain appointments. These can be obtained in pad form from the nutrition office (696-6138).

After each patient appointment, you will receive a note from the nutritionist which will assess your patient's past food intake, provide specific information on the type of diet the patient will be following and evaluate the patient's motivation and comprehension of the diet. This note will also advise you of further appointments and nutritional care we have planned with your patient.

### GROUP DISCUSSIONS

Discussion groups are being conducted on the following diets:

Diabetes

Type IIA Hyperlipidemia—Low Cholesterol

Type IV Hyperlipidemia

2 gm Na<sup>+</sup>

We request one individual counseling session with the patient before he participates in these group meetings, at which time he can obtain detailed information about dates, times and meeting places.

### LUTHERAN GENERAL HOSPITAL OUTPATIENT NUTRITION COUNSELING

Name: \_\_\_\_\_  
Diet recommendation: \_\_\_\_\_  
Dr. \_\_\_\_\_ M.D.

By appointment *only*. Appointments for individual diet counseling and Group Discussions can be scheduled through Outpatient Registration by calling 696-5050. DO NOT call the Nutrition Section for scheduling assistance. You may obtain the schedule of fees from Outpatient Registration.

Diagnosis: _____	Blood pressure: _____
Medication: _____	
Profile B _____	Cholesterol _____
Date: _____	Triglycerides _____
	Serum _____
	Type _____

GTT	FBS	Urine
Date: _____	½ hr. _____	_____
	1 hr. _____	_____
	2 hr. _____	_____
	3 hr. _____	_____
	4 hr. _____	_____
	5 hr. _____	_____
	6 hr. _____	_____

Others, if pertinent to diagnosis:

BUN \_\_\_\_\_  
Uric Acid \_\_\_\_\_  
HGB \_\_\_\_\_  
Others \_\_\_\_\_

## APPENDIX I

THE LIBRARY OF CONGRESS,  
LEGISLATIVE REFERENCE SERVICE,  
Washington, D.C., September 23, 1975.

To: Senate Nutrition Committee. Attention: Nick Mottern.

From: Education and Public Welfare Division.

Subject: Community Health Service centers programs and requirements for the provision of nutrition services.

This is in response to your request for information regarding the various Community Health Service centers programs supported by the Department of Health, Education, and Welfare and whether nutritional services are required to be provided by these programs. Programs surveyed include the following:

(1) One hundred fifty-seven operational *community health centers*, which include neighborhood health centers, family health centers, and community health networks, provided a range of preventive, curative, and rehabilitative ambulatory services and arranged for inpatient services to an estimated 1,425,000 persons in 1975. These programs are located in rural and urban areas of medical underservice. Neither the original authorizing legislation nor program guidelines explicitly require that nutritional services be offered by these centers. It should be noted that a revision of the community health center authority contained in Public Law 94-63 specifies that a center provide a number of primary health services and supplemental health services which are necessary for the adequate support of primary health services and appropriate to the particular center. The newly enacted legislation (July 29, 1975) further specifies that supplemental health services can include "public health services (including nutrition education and social services)."

(2) Ninety-six grants supported 105 *migrant health projects* which served approximately 390,000 migrant agricultural workers and seasonal farmworkers and their families in 1975. Services provided range from a full complement of diagnostic, therapeutic, and followup medical services to a more limited focus on specific diseases. Neither the original authorizing legislation nor program regulations explicitly require that nutritional services be offered by these centers. As for the community health center program, it should be noted that a revision of the migrant health program contained in Public Law 94-63 specifies that a center provide a number of primary health services and such supplemental health services as may be necessary and as may be appropriate to the particular center for the adequate support of primary health services. This newly enacted legislation further specifies that supplemental health services can include "public health services (including nutrition education and social services)."

(3) About 300 project grants supporting over 3,600 *family planning clinics* provided services to more than 2 million women in 1975. Serv-

ices include comprehensive family planning medical, educational, and social services. In providing these services, priority is given to those who cannot afford them. Neither the original authorizing legislation, program regulations, nor a revision of the family planning projects explicitly requires that nutritional services be offered.

(4) Approximately 520 *community mental health centers* provided services to about 1.57 million individuals in 1975. Mental health services provided by these centers include inpatient services, outpatient services, partial hospitalization; emergency services; and consultation and education services for a wide range of individuals and entities involved with mental health services, including health professionals, schools, law enforcement and correctional agencies, public welfare agencies. The services of the center must be available to all persons in the community, without regard to ability to pay. Neither the original authorizing legislation, program regulations, nor the revision of this program contained in Public Law 94-63 requires that nutritional services be offered by community mental health centers.

(5) Approximately 500 project grants for *community alcohol programs* provided services to about 176,000 individuals in 1975. These programs provide alcoholism treatment, rehabilitation, and prevention services to special population groups such as poverty populations, Indians, drinking drivers, public inebriates, and employed alcoholics. Neither the original authorizing legislation nor program regulations require that nutritional services be offered.

I hope this information is helpful. If you require further assistance, please don't hesitate to call.

RICHARD PRICE.

## APPENDIX J

### NUTRITION PROGRAMS IN STATE HEALTH AGENCIES

(By Milton Z. Nichaman, M.D. and Gretchen E. Collins\*)

**Key Words:** State health agencies, nutritionists, surveillance, standards, consultation, applied human research.

A recent survey of nutrition programs in State health agencies revealed a wide variation in numbers of nutrition positions, training and experience requirements, and in the administrative placement of the nutrition activity. Replies were received from 50 States, the District of Columbia, Guam, Trust Territories of the Pacific Islands, Puerto Rico and the Virgin Islands.

Forty respondents indicated nutrition was a separate unit; the number of full time positions in these units varied from 1 to 35. In addition to the 173 nutritionists in identifiable nutrition units it was reported that there were 53 positions in Health Care Facilities (Nursing Home Consultant, Hospital Consultant, etc.), 8 in Chronic Disease Programs, 54 in Maternal and Child Health Programs, and 125 in "other" programs.

NUMBER OF STATE AND TERRITORIAL NUTRITION POSITIONS BUDGETED AND FILLED, MAY 1973<sup>1</sup>

Number of positions budgeted per State and territory	Number of States and territories reporting	Total number of positions budgeted	Position vacancies
No positions.....	2		
1 to 3.....	14	27	4
4 to 6.....	17	83	10
7 to 9.....	6	47	6
10 to 20.....	12	160	21
Over 20.....	4	179	13
Total.....	55	496	54

<sup>1</sup> Includes 32 part-time positions.

\*Dr. Nichaman is Chief, Preventable Diseases and Nutrition Activity at the Center for Disease Control, Atlanta, Ga. Miss Collins is a Nutritionist with this unit.

<sup>1</sup> Nutrition Directory, State Health Agencies and Graduate Programs of Public Health Nutrition, Center for Disease Control, 1973. DHEW.

Source: *Journal of the American Dietetic Association*, vol. 65, July 1964.

ADMINISTRATIVE LOCATION AND NUMBER OF NUTRITIONISTS REPORTED TO BE EMPLOYED IN STATE AND TERRITORIAL HEALTH AGENCIES—MAY 1973<sup>1</sup>

Number of nutritional positions	Number of States and territories reporting	Total number of nutritionists in reporting States and territories	Number and location of nutritionists				
			Separate nutrition unit	Health care facilities	Chronic diseases	Maternal and child health	Other
None.....	3						
1 to 3.....	24	48	25	10	1	8	4
4 to 6.....	11	57	21	16	5	8	7
7 to 9.....	8	66	37	14	1	5	9
10 to 20.....	5	75	36	5		1	33
Over 20.....	4	167	54	8	1	32	72
Total.....	55	413	173	53	8	54	125

<sup>1</sup> Excludes part-time nutritionists and vacancies.

A large proportion of the time of nutritionists at the State level is spent in providing consultation to other personnel in the agency to local health department personnel, and to non-agency personnel concerned with nutrition and health such as teachers, agricultural workers and welfare employees. Depending upon the individual State structure, considerable time also may be devoted to various group care facilities. In general direct patient counseling is provided by local departments or by local clinic staff.

The multiplicity of roles that public health nutritionists have identified as their areas of responsibility and the problems they have encountered in evaluating and clearly reporting program activity have made it difficult for administrators and legislators to appreciate properly the value of nutrition services to the health care system. This in turn often results in allocation of inadequate staff and financial support.

There is no question that the activities being carried out by the nutritionists in State health agencies are worthwhile. The question is, however, are these activities in areas that should receive priority. Somehow there must be developed an understanding and acceptance by the policy making and program planning groups that nutrition services must be included in the initial plan for programs designed to maintain optimum health.

This cannot be achieved if nutrition services are tied to categorical funding. Neither can it be done if the nutritionist is not involved in the planning process. Identifying nutrition as a separate unit does not automatically assure involvement in major planning. The nutritionist must be trained to function at the planning table. All too often the nutritionist has adequate technical ability but is not equipped to be effective as a planner. The health administrator of the legislative groups must be supplied with definitive descriptions of the problem, a clear cut plan of action including cost in time, personnel, and dollars, and a plan for evaluating the outcome as it relates to the total health system. Traditional plans that address only limited or specific age groups must be replaced by a comprehensive approach. Nutrition problems are not unique to any one group. Prenatal nutrition, growth and development, obesity, the hyperlipidemias, problems of the aging such as possible hypervitaminosis, and inborn errors of metabolism are all problems that deserve attention of State health nutritionists.

A certain type of framework is required for the above ideas to be realized. Optimum functioning will necessitate maximum flexibility. Funds whether Federal, State, or local must be allocated to nutrition—not to chronic disease nutritionists or institutional consultants or to maternal and child health nutritionists.

Four major areas of involvement appear to constitute a matrix within which optimum nutrition programs may evolve at the level of the State health agency.

### NUTRITIONAL SURVEILLANCE

Despite the fact that this area appears basic to planning, implementing, and evaluating program activity, it has not been a major focus of public health nutrition programs to date. A surveillance program, specifically planned for the State involved is the only way to identify the nutritional needs unique to that geographic area. National surveys may suggest problem areas and high risk population groups, but only a continuing or planned periodic surveillance within the State can provide data basic to a well-founded program.

Frequently data are already being collected by other departments within the agency—e.g. epidemiology, vital statistics, and maternal and child health programs are routinely collecting information that can provide the nutrition section with important facts. Perhaps some reorganization or method of interpretation might be indicated if it is to be of greatest value to the nutritionists. Also, most health departments have such data as socioeconomic status, morbidity and mortality rates, and birth weight of infants. All of these have direct relation to nutrition planning.

Although it is difficult to understand this fact, there is also a wealth of basic information recorded and never used. To mention a few examples, heights, weights, and hemoglobin levels frequently are recorded but never reviewed or used in an epidemiologic framework. Not only is this an inexcusable waste of time, energy, and money, but it ignores basic information which might pinpoint groups needing intensive nutrition services.

In still other situations, the nutrition department may need to organize and conduct surveys that will provide information regarding the prevalence of specific nutrient deficiencies in identified population groups.

It is important to realize that surveillance is continuous while a survey per se is usually done at one point in time. Although a survey may highlight problems it should be followed for either continuous or preplanned periodic monitoring of those parameters selected as indices for measuring the nutritional problems and the effects of intervention programs on these problems. Such parameters may involve the nutritional status of selected population groups, dietary patterns, monitoring of the food supply, or availability of health and nutrition services, to cite a few.

### NUTRITIONAL STANDARDS

Second, the setting of Nutritional Standards should be a primary responsibility of the health agency. These would include standards for meal service for all group facilities; professional standards for personnel

involved in such facilities; guidelines for nutrition education programs; and standards for evaluating the nutritional status as determined by either surveys or a surveillance system. With the increasing emphasis on congregate feeding for the elderly, for the provision of nutritional services as a functional component of health maintenance organizations and with growing numbers of non-nutritionists being utilized to extend nutritional care, it is doubly important that standards be set and provisions made to assure their implementation.

#### NUTRITIONAL CONSULTATION

Nutritional Consultation is a third area in which the State program should be actively engaged. Although in general we believe that direct patient counseling should be performed at the local level and in many instances the same is true for consultation to institutions, the nutritionist at the State level should provide assistance in the identification of problems, interpretation of these in terms of program needs, and assist in setting up operational programs at the local level.

The State nutrition unit should also provide consultation to appropriate State agencies and the State legislature with regard to long range and immediate nutrition needs and program plans for the population of the State.

#### APPLIED NUTRITION RESEARCH

Finally, the State nutrition unit should have a program of Applied Nutrition Research that is directed toward designing, implementing, and evaluating model programs which, if successful, can be instituted at the local level.

For many, the above ideas will not be new. However, to use them as functional guidelines may require an in-depth review of existing programs and a realignment of manpower and objectives. Despite existing shortages of money and manpower, we believe that a new look at priorities and a willingness to abandon traditional approaches if they are no longer effective will move us much closer to optimum nutrition for our population.

## APPENDIX K

### FUNDING NEEDS FOR NUTRITION TRAINING

Prepared by the staff of the Select Committee on Nutrition and Human Needs for consideration in the drafting of the Public Health Service Act of 1976.

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The need for personnel in nutrition evaluation and counseling will be governed in large measure by: the extent of third party coverage for out-patient nutrition counseling; the nature of National Health Insurance coverage; the growth of health maintenance organizations; and legislation that would extend nutritional services to federally funded clinics not now offering them.

Projections of personnel needs are extremely difficult because there is little accurate information on the numbers of dietitians and nutritionists now employed in the United States, the jobs in which they are employed and their degree of training. In its 1972 report, the American Dietetic Association's Commission on Dietetics said: ". . . the Commission must emphasize the lack of reliable data. We have made some estimates which are little better than informed guesses." *Professional Health Manpower for Community Health Programs*, a report of an ad hoc task force, said in 1973:

At the present time both the government and the schools lack an adequate means of bringing directly relevant data to bear on this question (of public health personnel needs, including the need for dietitians) and in the absence of such data the schools will continue to function without either the assurance that their graduates will find appropriate employment or that their training is maximally relevant to the jobs they are likely to find.

Officials in HEW's Division of Associated Health Professions are fully aware of the deficiencies in personnel data but say they do not have the funds to conduct needed studies.

Estimates based on data provided by the ADA and the Bureau of Labor Statistics indicate that there are between 30,000 and 33,000 dietitians and nutritionists employed in the United States. The ADA estimates that between 50 and 60 percent of the work force is employed in patient care, or 16,000 to 18,000. (This includes administrators as well as those directly involved in counseling.)

We estimate that about 14,500 of these are employed in hospitals and health maintenance organizations, 1,500 to 2,000 in public health care, and about 1,000 in private practice, consulting with extended care facilities or involved in referral services to which doctors may send patients for counseling.

What will be the demand for dietitians and nutritionists in 1980?

The ADA and Bureau of Labor Statistics estimate that under the current structure of the health care system there will be 38,000 jobs for dietitians in 1980. The ADA Commission estimated in 1972 that 25,000 dietitians would be involved in patient care. This figure now seems to be too high. We estimate, based on the opinions of ADA and

HEW officials, that the total might more realistically be about 20,000, with 16,000 employed in hospitals and health maintenance organizations; 2,500 employed in public health; and another 2,000 to 2,500 employed in private practice.

What will be the impact of changes in health insurance coverage and Federal legislation?

HEW's Forward Plan for Health 1977-81 estimates that institution of the moderate coverage of the Administration's Comprehensive Health Insurance Plan (CHIP) would result in a 2 percent increase in demand for allied health personnel, a group which includes dietitians. This estimate might be too low for those involved in ambulatory care who would take on work now performed by doctors, the report said. Although this would seem to imply an increased demand for dietitians, it is likely that costs will force greater use of less highly trained persons who may not be dietitians. Consequently, hospital demand for dietitians in 1980 may not grow appreciably beyond the 16,000 estimated above.

A larger increase in demand is likely to result from the extension of health insurance to cover out-patient nutrition counseling, and here the area of largest growth is probably going to be in private practice, particularly in nutrition referral services. Efforts to improve care in nursing homes will also be a factor in increasing demand in the private sector. Therefore the estimate of 2,000 to 2,500 employed in this area in 1980 may be conservative.

In 1973, the ad hoc task force on public health nutrition employment, mentioned earlier, estimated a demand for 2,600 public health nutritionists by 1980. However that estimate did not include demand that might result from extending nutrition services to federally funded clinics not now required to offer them. Legislation to expand nutrition services could affect: 3,600 family planning clinics; 520 community mental health centers; and 500 community alcohol programs. By 1980 the numbers of programs may have increased, but in many cases a single nutritionist might serve several programs simultaneously. Therefore, the estimate of 2,600 may be quite conservative also.

#### SUPPLY

Until recently certification as a registered dietitian required 4 years of college and a 1-year internship, usually in a hospital.

However, new interest in nutrition has brought a flood of applicants who cannot be handled by existing internship programs. In 1975, the ADA reports, there were 3,505 applicants for 661 available internships. Consequently, there has been extraordinary growth in "coordinated" programs, programs that mesh clinical training with 4 years of academics.

In 1970 there were two coordinated programs, and now there are 57 under full and developmental approval by ADA. Applications for approval have been made for eight more programs. It is expected that about 200 will be graduated from coordinated programs in 1976.

About 700 are expected to be graduated from the 69 internship programs accredited by ADA.

The American Society of Allied Health Professions estimates that about 2,100 dietitians received degrees from graduate and bacca-

laureate programs in the 1972-73 school year. Based on various sources, the following is an estimate of how this total would be broken down by degree of training.

Baccalaureate.....	900
Coordinated or internship.....	1,000
Graduate.....	250
Total.....	2,150

We estimate that this total may have increased in 1975-76 by several hundred.

Is this supply meeting the current and future demand for dietitians and nutritionists?

A recently prepared ADA task force report said the number of students at the baccalaureate level appeared adequate to meet "probable requirements." But, it said,

... the gap between the projected supply of and potential requirements for persons with advanced degrees could almost reach 1,000 by 1980 even without the full implementation of a nation-wide HMO delivery system, which would be quite unlikely. Once such a system were implemented, the gap could increase far upwards of an additional 500.

The ad hoc task force on public health nutrition estimated that current programs would produce only enough graduates with a masters degree or higher to fill 1,800 public health nutrition jobs in 1980 whereas the demand was likely to be about 2,600.

A staff survey of 10 directors of coordinated programs located in all major regions of the country, conducted in February 1976, supports the ADA evaluation. Most directors said that the supply at the baccalaureate level approximated demand, that the demand was greater for those with internship or coordinated training and that the greatest demand is for students at the masters and doctoral levels.

## CURRENT FUNDING

Funding for training in nutrition flows through Sections 312-313 and Sections 792-793 of the Public Health Service Act. Sections 312-313 provide funds to schools of public health and others, and Sections 792-793 fund schools of allied health professions. In both portions of the law, nutrition must compete with other disciplines for support.

The following is a detailed listing of the avenues for funding for nutrition training, and, where data is available; the amounts of money allocated to nutrition in fiscal year 1975, by school.

### A. Sections 312-313 Public Health

#### (1) INSTITUTIONAL SUPPORT

(a) *Formula grants*—These grants are given to schools of public health for general use; some of the funds may be spent for nutrition training, but this is not mandatory, and it is impossible to determine amounts spent specifically for nutrition. The total expended among the 19 schools of public health in fiscal year 1975 was \$5.9 million. Table 1 lists the schools receiving grants, the amount received and numbers of students in nutrition.

TABLE 1.—FORMULA GRANTS TO SCHOOLS OF PUBLIC HEALTH, FISCAL YEAR 1975

Grantee	Amount awarded	Students in nutrition, 1974-75
University of California (Berkeley).....	\$406, 376	20
University of California (Los Angeles).....	437, 843	54
Loma Linda University.....	170, 376	17
Yale University.....	229, 376	0
University of Hawaii.....	237, 242	10
University of Illinois at the Medical Center.....	131, 042	0
Tulane University.....	272, 642	16
Johns Hopkins University.....	488, 976	(1)
Harvard School of Public Health.....	296, 242	24
University of Massachusetts.....	131, 041	0
University of Michigan.....	772, 176	35
University of Minnesota.....	378, 842	16
Columbia University.....	193, 976	0
University of North Carolina.....	551, 909	29
University of Oklahoma.....	201, 842	0
University of Pittsburgh.....	343, 442	0
University of Puerto Rico.....	233, 308	(1)
University of Texas.....	178, 241	0
University of Washington.....	245, 108	0
Total, 19 grants.....	5, 900, 000	221

<sup>1</sup> Figures not available.

(b) *Project grants for graduate training in public health.*—These grants are given to schools of public health and others to support faculty and equipment in various disciplines. In fiscal year 1975 project grants totaling \$237,791 were awarded to four schools for nutrition training. Table 2 lists the schools and the amounts received by each.

Table 2—Project grants for graduate training in Public Health fiscal year 1975

Grantee	Amount awarded
University of California Berkeley.....	\$46, 507
University of Hawaii.....	62, 040
Case Western Reserve University.....	44, 965
University of Puerto Rico.....	84, 279
Total grants.....	237, 791

Table 2A shows how the total grant for this section was divided among disciplines. In this category, 4.3 percent of the allocation was spent for nutrition training.

TABLE 2A.—FISCAL YEAR 1975 PROJECT GRANTS FOR PUBLIC HEALTH TRAINING BY CURRICULUM AREA

Curriculum	Number of grants	Amount awarded
Preventive medicine.....	15	\$1, 087, 645
Preventive dentistry.....	2	198, 636
Health Services Administration.....	21	1, 807, 094
Environmental health.....	15	765, 424
Public health nursing.....	2	126, 359
Epidemiology.....	2	122, 969
Behavioral sciences.....	1	17, 077
Nutrition.....	4	237, 791
Teacher preparation.....	1	71, 768
Statistics.....	6	426, 034
Public health education.....	3	223, 861
Laboratory training.....	3	123, 044
Other.....	3	292, 298
Total.....	78	5, 500, 000

Note: Percent of total for nutrition, 4.3.

## (2) STUDENT SUPPORT

(a) *Public health special purpose traineeship grants.*—These grants are given to schools of public health and others to provide aid for graduate students in various disciplines. In fiscal year 1975 grants totalling \$527,924 were given to 11 schools to support advanced training in nutrition, supporting an estimated 88 students. (The estimate of students is determined by dividing the total funds by the \$6,000 average stipend and tuition. The estimate is conservative, however, since grants are based on need and many, if not most, do not receive the full total.) Table 3 lists the schools and the amounts of the grants.

TABLE 3.—PUBLIC HEALTH SPECIAL PURPOSE TRAINEESHIP GRANTS, FISCAL YEAR 1975

Grantee	Program title	Amount awarded
University of California (Berkeley).....	Public health nutrition.....	\$44,480
Do.....	Dietetic internship.....	21,330
Total University of California grant.....		65,810
Tulane University.....	Nutrition.....	14,551
Do.....	Maintaining nutritional levels in stored foods.....	30,600
Total Tulane University grant.....		45,151
University of Michigan.....	Community nutrition.....	73,120
Columbia University.....	Training of public health nutritionists.....	113,205
University of North Carolina.....	Public health nutrition.....	43,764
Case Western Reserve University.....	do.....	25,228
Do.....	Post internship in public health nutrition.....	8,434
Do.....	Public health nutrition.....	25,928
Total Case Western grant.....		59,590
Pennsylvania State University.....	Public health nutrition.....	23,420
University of Puerto Rico.....	do.....	29,850
University of Tennessee.....	do.....	23,328
University of Texas.....	Community nutrition.....	34,262
Virginia Polytechnic Institute and State University.....	Nutrition.....	16,424
Total.....		527,924

Table 3A shows how the money allocated for this section was divided among disciplines. In this category, 10.8 percent of the allotment was used for nutrition training.

TABLE 3A.—FISCAL YEAR 1975 SPECIAL PURPOSE TRAINEESHIP GRANTS, BY PROGRAM AREA (SEC. 312 PHS ACT)

Program area	Number of programs	Approved budget
Public health nursing.....	20	\$667,032
Environmental health.....	10	395,447
Health Services Administration.....	35	1,970,283
Public health nutrition.....	15	527,924
Health statistics.....	4	102,221
Epidemiology.....	2	93,981
Family planning/population studies.....	5	256,838
Dental public health.....	2	62,685
Health education.....	3	136,289
Public health laboratory.....	2	37,479
Maternal and child health.....	2	82,319
Other.....	14	537,502
Total.....	114	4,870,000

Note: Percent of total for nutrition, 10.8.

(b) *Public health general purpose traineeship grants.*—These grants also provide aid for graduate students and are divided among the 19 schools of public health on the basis of enrollment. In fiscal year 1975, a total of \$2.55 million was allocated to this group. HEW reports \$2.98 million was actually spent in academic year 1975, and it is estimated that \$154,000 of this, or about 5.5 percent, was used for training in nutrition. This estimate is based on the number of students receiving grants, 66, and the average cost per student, \$2,341.

Table 4.—*Public health general purpose traineeship grants fiscal year 1975*

<i>Grantee</i>	<i>Amount awarded</i>
University of California (Berkeley) .....	\$187, 500
Loma Linda University .....	120, 000
University of California (Los Angeles) .....	217, 500
Yale University .....	95, 000
University of Hawaii .....	72, 500
University of Illinois (Chicago) .....	27, 500
Tulane University .....	82, 500
The Johns Hopkins University .....	192, 500
Harvard University .....	130, 000
University of Massachusetts .....	50, 000
University of Michigan .....	360, 000
University of Minnesota .....	165, 000
Columbia University .....	77, 500
University of North Carolina .....	250, 000
University of Oklahoma .....	87, 500
University of Pittsburgh .....	135, 000
University of Puerto Rico .....	100, 000
University of Texas .....	117, 500
University of Washington .....	82, 500
Total .....	2, 550, 000

Table 4A shows the numbers of students receiving grants in each school.

Table 4A—*Students in nutrition programs under public health general purpose traineeship grants in academic year 1975*

University of California (Berkeley) .....	9
Loma Linda University .....	10
University of California (Los Angeles) .....	<sup>1</sup> 27
Yale University .....	0
University of Hawaii .....	3
University of Illinois (Chicago) .....	( <sup>2</sup> )
Tulane University .....	4
Johns Hopkins University .....	( <sup>2</sup> )
Harvard University .....	2
University of Massachusetts .....	0
University of Michigan .....	0
University of Minnesota .....	2
Columbia University .....	0
University of North Carolina .....	9
University of Oklahoma .....	0
University of Pittsburgh .....	0
University of Puerto Rico .....	0
University of Texas .....	( <sup>2</sup> )
University of Washington .....	0
Total .....	66

<sup>1</sup> 26 listed under Environmental Health and Nutrition. One listed under Nutrition Science.

<sup>2</sup> The actual expenditure of funds in academic year 1975 was \$2,980,515. The estimated expenditure for nutrition training, \$154,506, represents about 5.5 percent of the total.

NOTE. Amount spent : 66 times average cost per trainee \$2,341 equals \$154,506.

(c) *Public Health Short-term Traineeship Grants.*—These grants are assigned by the regional offices of HEW for training of students for periods of less than a year. Table 5 shows the allocation of grants totaling \$61,235 for nutrition training in 7 schools and 2 State Departments of Health in fiscal year 1975. The percent of total grants allocated for nutrition was 6.3.

TABLE 5.—SHORT-TERM TRAINEESHIP GRANTS (SEC. 312 PHS ACT) FISCAL YEAR 1975

Grantee	Project	Grant	Number enrolled
University of Alabama.....	Nutritional assessment in health programs.....	\$9,038	40
University of Colorado.....	Nutritional care for developmentally delayed children..	4,445	2
University of Michigan.....	Nutrition and developmental disabilities course.....	10,125	135
Montana State Department of Health and Environmental Sciences.....	Nutritional assessment of nutritionally high risk patient.....	4,186	30
Montana State.....	Feeding skill development and nutrition assessment.....	6,601	45
New York University.....	Nutritional assessment workshop for dietitians.....	8,889	40
Ohio State University.....	The use of the computer in dietetics.....	5,000	30
Pennsylvania Department of Health.....	Nutrition services.....	7,000	50
University of Washington.....	Nutrition in the growing years.....	5,951	150
Total.....		61,235	522
Total grants awarded.....		988,641	

Note: Percent of total for nutrition, 6.3.

## B. Sections 792-793 Allied Health

### (1) INSTITUTIONAL SUPPORT

(a) *Special project grants.*—Special project grants are given to schools of allied health professions for improvement of training. These are schools that do not meet the criteria to be designated “training centers.” In fiscal year 1975, a total of \$256,943 was awarded to three schools for improvement of nutrition training. Table 6 lists the schools and the amounts received by each.

TABLE 6.—ALLIED HEALTH PROFESSIONS SPECIAL PROJECTS GRANTS AWARDED, FISCAL YEAR 1975

Grantee	Title of project	Amount awarded
University of Alabama (Birmingham).....	Self-instructional modules for dietetics program.....	\$47,093
Do.....	Master of Science in child nutrition.....	62,899
Mercy College of Detroit.....	A competency-based career mobility dietetics program.....	60,195
Viterbo College.....	Coordinated program in community dietetics.....	86,756
Total.....		256,943

Table 6A shows the division of funds under this section among various disciplines. In this category, 3.7 percent of the allocation went for nutrition training.

TABLE 6A.—ALLIED HEALTH PROFESSIONS SPECIAL PROJECT GRANTS AWARDED (SUMMARY BY DISCIPLINE—FISCAL YEAR 1975) (AS OF JUNE 30, 1975)

Discipline	Number of awards	Total amount awarded (including indirect costs)
Allied health education.....	3	\$187, 775
Allied health teacher education.....	1	52, 634
Cardiovascular technician.....	1	125, 740
Dental assistant.....	2	115, 605
Dental hygienist.....	1	76, 297
Dietary technician.....	2	81, 001
Dietitian.....	4	256, 943
Dual programs (medical laboratory technician/medical record technician).....	1	27, 741
Emergency medical technician.....	29	3, 749, 864
Environmental health technologist.....	2	133, 582
Genetic associate.....	1	69, 254
Gerontology.....	1	44, 655
Health Care Administration.....	2	76, 600
Interdisciplinary.....	6	285, 733
Medical laboratory technician.....	3	230, 433
Medical record administrator.....	2	64, 657
Medical technologist.....	4	121, 861
Multidisciplinary.....	1	61, 115
Nuclear medicine.....	1	81, 536
Occupational therapist.....	1	29, 292
Optometric technician.....	1	97, 721
Physical therapist.....	4	258, 857
Radiologic technician.....	1	29, 169
Respiratory therapist.....	1	204, 118
X-ray technician.....	1	16, 524
Other.....	7	390, 513
Total.....	83	6, 869, 220

Note: Percent of total for nutrition training (dietitians) 3.7.

(b) *Special improvement grants.*—These grants provide support for training centers in allied health professions. In fiscal year 1975, a total of \$680,888 was given to 15 schools for the improvement of training in nutrition. Table 7 lists the schools and the amounts each received.

TABLE 7.—ALLIED HEALTH PROFESSIONS SPECIAL IMPROVEMENT GRANTS, FISCAL YEAR 1975

Grantee	Title of project	Amount awarded
University of California (Berkeley).....	Coordinating undergraduate dietetics.....	\$63, 394
University of Florida.....	Dietetics—coordinator-undergraduate.....	67, 921
Indiana State University.....	Dietitian.....	30, 656
Louisiana Technical University.....	Dietetics.....	18, 522
Tufts University.....	Dietitian/nutritionist.....	5, 940
University of Massachusetts.....	Dietitian.....	4, 680
Michigan State University.....	Dietetics.....	56, 048
East Carolina University.....	Dietetics—coordinator-undergraduate.....	32, 678
University of North Dakota.....	Dietetics.....	44, 328
University of Tennessee.....	Dietetics—coordinated undergraduate program.....	83, 863
University of Texas.....	Dietetics—undergraduate.....	25, 759
Washington State University.....	Dietetics—coordination/undergraduate.....	90, 291
University of Wisconsin.....	Dietetics.....	43, 681
Viterbo College.....	do.....	37, 449
University of Southern Mississippi.....	Coordinated undergraduate program in dietetics.....	75, 678
Total.....		680, 888

Table 7A shows the division of funds among various disciplines and the percent allocated for nutrition training, 6.6 percent.

TABLE 7A.—ALLIED HEALTH PROFESSIONS SPECIAL IMPROVEMENT GRANTS (SUMMARY BY DISCIPLINE—FISCAL YEAR 1975)

(As of June 30, 1975)

Curriculums	Number of grants	Total amount awarded (including in-direct costs)
Senior colleges:		
Audiovisual.....	2	\$59,576
Coordination.....	7	1,290,229
Dental assistant.....	1	36,527
Dental hygienist.....	7	308,884
Dental laboratory technician.....	1	10,785
Dietitian.....	15	680,888
Emergency medical technician.....	4	384,441
Health Care Administration.....	1	63,829
Inhalation therapy technician.....	4	651,418
Medical laboratory technician.....	1	13,891
Medical record librarian.....	5	102,960
Medical record technician.....	1	73,399
Medical technologist.....	29	1,980,977
Nuclear medicine technician.....	1	27,650
Occupational therapist.....	7	197,964
Optometric technician.....	2	102,358
Other.....	11	647,892
Physical therapist.....	10	507,817
Radiologic technologist.....	10	448,014
Respiratory therapist.....	1	138,214
Sanitarian.....	4	230,166
Dual programs		
Nuclear medicine technology/radiologic health.....	1	53,407
Medical technology/medical laboratory technician.....	2	75,306
Occupational therapy/physical therapy.....	1	27,897
Total.....	128	8,104,489
Junior colleges:		
Coordination.....	1	13,320
Dental assistant.....	2	81,485
Dental assistant/hygiene.....	1	28,608
Dental hygienist.....	5	250,581
Emergency medical technician.....	6	298,187
Inhalation therapy technician.....	3	124,256
Medical laboratory technician.....	3	111,557
Medical record technician.....	3	96,412
Occupational therapy assistant.....	1	87,826
Other.....	4	304,785
Physical therapist.....	1	39,668
Physical therapy assistant.....	2	71,608
Radiologic technician.....	3	350,966
Respiratory therapist.....	2	60,923
Respiratory therapy technician.....	1	48,442
X-ray technician.....	3	118,921
Total.....	41	2,087,545
Grand total.....		10,192,034

Note: Percent of total for nutrition, 6.6

## (2) STUDENT SUPPORT

(a) *Traineeships*.—These grants are awarded to assist graduate students in allied health disciplines. In fiscal year 1975, a total of \$608,966 was awarded to 21 schools for the training of 101 students in nutrition. Table 8 lists the schools and amounts each received.

TABLE 8.—ALLIED HEALTH PROFESSIONS ADVANCED TRAINEESHIP GRANTS, FISCAL YEAR 1975

Grantee	Discipline and degree	Amount awarded
University of Alabama	Technical preparation in clinical nutrition (M.S.)	\$34, 110
University of California	Dietetics, teacher preparation (M.S.)	40, 252
Emory University	M.M.Sc./dietetics—teaching, administration, CL specialist.	44, 400
University of Hawaii	Dietetics—specialization and counseling (M.S.)	19, 702
Kansas State University	Dietetics—administration (M.S.)	9, 960
University of Kansas	Masters degree in dietetics and nutrition	35, 118
University of Kentucky	Clinical nutrition dietitian (M.S.)	11, 160
Tufts—New England Medical Center Hospital	M. Ed. in clinical nutrition education	26, 620
Boston University	M.S. dietetics	61, 240
Framingham State College	Dietetics—teacher preparation (M.S.)	19, 261
Michigan State University	Dietetics (M.S.)	20, 512
Mississippi State University	do	4, 784
New York University	M.S. dietitian (A.H. Education)	68, 300
North Dakota State University	Dietetics (M.S.)	17, 586
University of Cincinnati	Dietetics master's degree program in nutrition education.	26, 860
Case Western Reserve University	Nutrition (M.S.)	40, 292
Ohio State University	Dietetics (M.S.)	24, 820
Do	Dietetics (Ph. D.)	28, 120
Do	M.S. in medical dietetics teacher preparation	27, 125
Total Ohio State		80, 065
University of Tennessee	Administrative dietetics (Ph. D.)	11, 764
Do	Administrative dietetics (M.S.)	22, 328
Total University of Tennessee		34, 092
University of Washington	Dietetics/M.S. or M.A.	14, 652
Total		608, 966

Table 8A shows the breakdown of the funds provided under this section among various disciplines. In this category, 23.3 percent of the total was allocated for nutrition.

TABLE 8A.—FISCAL YEAR 1975, ALLIED HEALTH PROFESSIONS ADVANCED TRAINEESHIP GRANTS, GRANTS AWARDED BY DISCIPLINE

Discipline	Number of grants	Amount awarded
Allied Health Administration	3	\$57, 802
Dental hygiene	7	284, 002
Dietetics	22	608, 966
Medical technology	10	345, 084
Multidiscipline	4	301, 609
Occupational therapy	6	308, 880
Physical therapy	6	275, 549
Radiologic technology	3	140, 005
Respiratory therapy	1	19, 840
Speech pathology and audiology	1	30, 900
Microbiology	1	51, 000
Other	6	183, 096
Total	70	2, 606, 733

Note: Percent of total for nutrition training, 23.3.

(b) *Training Institutes (less than a year).*—These grants are awarded to assist graduate students in allied health professions on a short-term basis. In fiscal year 1975, a total of \$26,062 was awarded to 2 schools for the training of 73 students. Table 9 lists the schools and the amounts received by each.

TABLE 9.—ALLIED HEALTH PROFESSIONS TRAINING INSTITUTE GRANTS FISCAL YEAR 1975

Grantee	Title of program	No. of trainees	Amount awarded
Emory University.....	Institute on Dietary Management of Metabolic Diseases..	48	\$16,762
University of Missouri.....	Computer-assisted food service systems management workshop.	25	9,300
Total.....			26,062

Table 9A shows the allocation of funds under this section by discipline. In this category, 2.7 percent of the total went to nutrition training.

TABLE 9A.—ALLIED HEALTH PROFESSIONS TRAINING INSTITUTE GRANTS  
GRANTS AWARDED BY DISCIPLINE, FISCAL YEAR 1975

Discipline	Number of grants	Amount awarded	Trainees
Allied health student counseling.....	1	\$12,066	72
Allied health supervisory preparation.....	1	11,663	75
Clinical education.....	4	55,027	183
Dental auxiliary teacher preparation.....	3	43,190	207
Dietetics management preparation.....	1	9,300	25
Dietetics practice.....	1	16,762	48
Interdisciplinary teacher preparation.....	5	342,511	551
Medical laboratory clinical instructor preparation.....	1	175,790	1,000
Medical record teacher preparation.....	1	19,200	25
Medical technology practice.....	1	8,000	24
Multidisciplinary consultant preparation.....	1	11,760	120
Occupational therapy/physical therapy practice.....	1	33,400	40
Occupational therapy teacher preparation.....	1	81,403	276
Physical therapy practice.....	1	5,182	32
Radiologic technology administrative preparation.....	1	13,050	75
Radiologic technology teacher preparation.....	1	20,100	24
Respiratory therapy teacher preparation.....	1	60,160	320
Other.....	3	37,703	85
Total.....	29	956,267	3,182

Note: Percent of total for nutrition training, 2.7.

### *C. Summary of funding of nutrition training in schools of public health and allied health professions for fiscal years 1973 through 1975*

	Fiscal year—			Total	3-yr average
	1973	1974	1975		
Institutional support:					
Public health.....	\$156,000	\$86,000	\$238,000	\$480,000	\$160,000
Allied health.....	1,418,000	4,813,000	938,000	7,171,000	2,390,000
Total.....	1,574,000	4,901,000	1,176,000		2,550,000
Student support:					
Public health.....	476,000	467,000	744,000	1,687,000	562,000
Allied health.....	504,000	748,000	635,000	1,887,000	629,000
Total.....	980,000	1,215,000	1,379,000		1,191,000
Fiscal year total.....	2,554,000	6,116,000	2,555,000		3,741,000

The surge in funding in fiscal year 1974 results from the release of impounded funds.

## SUPPORT NEEDS

The staff survey of directors of 10 coordinated programs and interviews with HEW and ADA officials indicate the need for additional Federal support in the following areas.

*A. Clinical training.*—Hospitals are becoming more reluctant to offer clinical training spaces because of their increased costs. Hospitals are more frequently demanding payment or asking schools to send their own instructors into the hospitals. This is a particularly serious problem for fledgling coordinated programs, especially those without Federal or foundation money. The coordinated program is expensive because to meet ADA requirements, it must provide a 1 to 10 teacher to student ratio. Both public and private schools are under increasing economic pressure, and several directors said their coordinated programs were threatened, with the cost of hospital training spaces one of the most serious problems.

HEW reported that no fiscal year 1975 grant applications for coordinated programs, with technical approval, went unfunded. This is not necessarily an indication of lack of need, however. Earlier refusals of grant applications and the irregularity of amounts available may be discouraging applications.

*B. Traineeships.*—As noted earlier, the demand is great for dietitians and nutritionists with advanced degrees. HEW reports that 11 applications from 8 schools for grants under the Allied Health section totaling \$196,257 could not be funded in fiscal year 1975. These grants would have assisted in the training of 36 students. Table 9 shows the schools whose requests could not be met and the amounts involved for each.

TABLE 9.—APPLICATIONS FOR TRAINEESHIP GRANTS IN ALLIED HEALTH NOT FUNDED IN FISCAL YEAR 1975 BECAUSE OF INADEQUATE FUNDS

School	Degree	Amount	Students
Colorado State	M.S.	\$38,508	6
	Ph. D.	21,054	3
University of Nebraska	M.S.	9,576	2
Tuskegee Institute	M.S.	31,650	6
University of California (Berkeley)	M.S.	3,000	1
Iowa State	M.S.	23,448	4
University of Missouri	Food systems management	13,875	3
	M.S.	13,875	3
	Ph. D.	9,850	2
University of Tennessee	Ph. D.	12,364	1
Washington State	M.S. home economics	19,057	4
Total		196,257	36

Officials said that a special problem in graduate training is the need for support of students who want to return to school in mid-career and whose financial needs are greater than those of students just leaving undergraduate training. The ADA's Commission on Dietetics reported the need for retraining or additional training for 5,000 to 10,000 current practitioners. Officials believe it necessary to make special provisions for assistance of those seeking to study after their careers are underway.

## RECOMMENDATIONS

*A. Clinical Training*

As discussed in the previous section, there is a need for substantial support for schools offering coordinated programs in dietetic training. Two alternatives are available for providing this support:

1. *Capitation.*—Capitation currently covers training of doctors, dentists, veterinarians, osteopaths, optometrists, podiatrists, pharmacists and nurses. Because of the broad application of nutrition to health concerns, the increasing complexity of nutrition knowledge and the anticipated demand for dietitians, capitation should be considered.

Grants would be given to undergraduate programs offering coordinated programs resulting in a baccalaureate degree and registration by the ADA. Accreditation of the program would be accomplished through the Council of Post-Secondary Accreditation.

The amount of capitation might be similar to that provided under the Nurse Training Act of 1975, \$400 for each under-graduate full-time student enrolled in the last 2 years of school. The exact amount would have to be based on a study of school needs and available funds.

2. *Expand Amount for Institutional Support of Allied Health.*—An alternative to capitation would be to significantly increase the total allocation for institutional support of Allied Health thereby increasing the amount available for nutrition training. In addition, it would be important, either in the bill or in the report on the bill, to ask that priority be given to nutrition training in the allocation of grants.

*B. Traineeships*

1. *General Student Support.*—As noted earlier, there is a demand for those with advanced degrees and a demand for grants for advanced training. To meet these needs, it is essential to both increase the amounts allocated for traineeships and request that priority be given to nutrition.

2. *National Health Service Scholarships.*—There is also a need for dietitians in rural areas. Greater support for advanced training and service in rural areas could be achieved through including dietitians and nutritionists among those eligible for National Health Service Scholarships.

3. *Minority assistance.*—To provide assistance for economically disadvantaged students, particularly minority students, in the final two years of the coordinated program, it is recommended that a special grant authority be created under the Allied Health section and that special priority be given to nutrition.

4. *Mid-Career assistance.*—To assist those wanting to return to school for nutrition training after their careers are underway, it is recommended that a special grant authority be created under the Allied Health section and that priority be given for nutrition.

*C. Minority aid*

Most directors said there is a definite need for scholarship assistance to minority students and the poor. Because of lack of assistance for these students, the director of a coordinated program said, there is "a danger of (the program) becoming a program for the elite." As-

sistance is needed particularly in the last 2 years of the coordinated program because the clinical work during this period makes it impossible for a student to hold an outside job.

#### *D. Manpower Study*

As discussed earlier, there is inadequate data on current employment, training and projected need in dietetics. Sections 794, 799 and 803 of H.R. 5546 are designed to provide this information and should be supported. It might be useful to specify that money to be spent in this area to insure that the proper information is gathered. HEW officials estimated it would take \$2 million each for sections 794 and 799. No estimate was given for Section 803.

#### *E. Nutrition Training in Medical Schools*

Section 771(c)(2)(B)(viii) of S. 989 provides for grants to assist medical schools "to plan, develop, and implement a program of nutrition education within their curricula." This provision should be retained.

#### *F. Responsibility for Nutrition Training*

Consideration should be given to the assignment of the responsibility within HEW for nutrition training, both in medical schools and in schools of dietetics and public health and the creation of a special unit for this purpose.

#### *G. Area Health Education Centers*

It is recommended that the phrase "including nutrition education" be inserted in Section 784(a)(3) of H.R. 5546, providing for nutrition education in Area Health Education Centers.

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### NOTE

As a result of the preceding memo, Senator Stafford, a member of the Health Subcommittee of the Senate Labor and Health, Education, and Welfare Committee, offered amendments to S. 3239, modifying the Public Health Service Act, which resulted in inclusion of the following provisions:

1. Dietetics and nutrition are included among four categories of training eligible for special project grants for schools of public health. (The others are: biostatistics or epidemiology; health administration, health planning or health policy analysis and planning; and environmental or occupational health.)

The funds available for the four categories will be: \$5 million in fiscal year 1978; \$5.5 million in fiscal year 1979; and \$6 million in fiscal year 1980. (Title X, Section 783.)

2. Specialists in dietetics and nutrition who have a post-baccalaureate degree or three years experience in health services are among those four groups (the same as those listed above) within which HEW must allocate 80 percent of its public health traineeship funds.

The funds available for the four categories will be: \$10 million in fiscal year 1978; \$11 million in fiscal year 1979; and \$12 million in fiscal year 1980. (Title X, section 784.)

3. A dietetic residency program for doctors is created, to be funded by Special Projects and Contracts (Title XII, Section 776(w)); and eligibility is retained for grants to medical schools for nutrition training. (Title XII, Section 776(o)(1)(G)).

4. Nutrition education and counseling is mentioned specifically as a health education service to be provided by Area Health Education Centers. (Title XII, Section 776(d)(3)(B)(i)). (This provision was submitted by Senators McGovern and Stafford.)

Funds available for grants under Title XII will be: \$100 million in fiscal year 1978; \$110 million in fiscal year 1979; and \$120 million in fiscal year 1980.

## APPENDIX L

### PRELIMINARY PLANS FOR THE SECOND HEALTH AND NUTRITION EXAMINATION SURVEY

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#### A. JUSTIFICATION

The National Center for Health Statistics (NCHS) has legislative authority under Public Law 93-353, Section 306, Paragraph (6), Item (1) to collect statistics on a number of health areas which include:

1. The extent and nature of illness and disability in the U.S. population.
2. Environmental, social, and other health hazards.
3. Determinants of health.
4. Health resources and utilization of these resources.

One of the continuing NCHS programs providing such information, the Health Examination Survey is completing its present field program (OMB No. 68-R1184) in October 1975. The Division of Health Examination Statistics requests *preliminary approval* for its next project outlined below which is designed to complement and supplement the data relating to the four areas stated above generated from other NCHS and external data collection mechanisms. The proposed program focuses primarily on assessing health variables that cannot be measured more efficiently through some other mechanism that can produce national data as described below. The topics for which clearance is being requested are expected to be an inclusive list of those that will be pilot studied and pretested by DHES staff for possible inclusion in the Second Health and Nutrition Examination Survey (HANES II) program.

The purpose of the HANES II program is to measure the prevalence of certain health and nutritional conditions and indicators, and to monitor change in them over time. Major conditions of interest are *anemias, diabetes, kidney disease, heart disease, liver disease, hypertension, speech defects and hearing problems, allergies, osteoarthritis and disc degeneration in the cervical and lumbar spines, otitis media, and respiratory function*. Evaluation of nutritional status will include dietary intake and food frequency data inter-related with physical examination, medical history, and biochemical assessment data.

*1. Target Population.*—a. Nutritional assessment and general health: a national probability sample of civilian, noninstitutionalized individuals in such a manner that estimates of health and nutritional status can be made for persons 6 months to 74 years of age, and specifically for population groups at high risk of poor nutrition, e.g., preschool children, the aged, the poor, and women of child-bearing age. Some estimates will be possible for minority persons within these groups. Hawaii, Alaska, and American Indian Reservation lands are included in the target universe.

b. Heart disease, diabetes, arthritis of the back and spine, and liver disease would be assessed in a national probability sample of adults 18-74 years of age that would comprise a subset of a.

c. Kidney disease, hypertension, and allergies would be assessed on a national probability sample of the group 3-74 years of age that would comprise a subset of a.

d. Respiratory function and speech defects would be assessed on the 6-24 years of age group that comprises a subset of a.

2. The sample design being jointly developed by the Statistical Methods Staff (SMS), NCHS, and the Statistical Methods Division (SMD) Bureau of the Census, will build upon the 376 strata sample design of the Health Interview Survey to specifically define a representative national sample that will be capable of estimating the prevalence of target conditions by geographic region, urbanization, and some age, race, sex and income classifications. Not all of these classifications could be used simultaneously.

Although the details of the plan are not available at this time, it appears from past experience that 21,000 examined persons (EP's) distributed over the age range can produce satisfactory estimates for the target groups and conditions. Assuming a *modus operandi* similar to that of HANES I and a response rate of eighty percent (80%) or greater, the sample size required to obtain 21,000 EP's is about 27,000 sample persons (SP's). The SP's would be selected from a maximum of 64 locations called Primary Sampling Units (PSU's) between January 1976 and November 1978 (roughly a three year period). If the Fixed Site Project (OMB 68-S74022) is successful, a number of "locations" could be run concurrently and the time of the data collection could be reduced.

Within a PSU poverty segments will be emphasized. SMD has Census Tract and Enumeration District (ED) data that enables selection of segments in ED's where  $x\%$  of segments fell below poverty levels (or some fraction of it) in 1970. The sampling of these segments to other segments would be at a ratio between 2:1 and 4:1. The optimum level for the development of the estimates specified above, should be determined by SMD using a Poverty Index cutoff of less than 1.00. Segments would be clusters of eight (8) households.

SMS and SMD will recommend the sampling rate of persons within sample households to obtain the necessary number of SP's in each age class to produce the desired estimates. The within household sampling rate by age will be kept simple and will emphasize the pre-school children and the aged. In HANES I females of child-bearing age were also over-represented in the selection procedure. This was found unnecessary in a second program because adequate numbers could be examined without special emphasis. The number of SP's per PSU will be between 300-600 persons.

A detailed sample design and selection plan will be furnished in a final clearance request in the fall 1975. Mr. Earl Bryant is the Chief, SMS, NCHS, and is responsible for coordinating this aspect of the proposed plan.

3. The Household Interview will be conducted by the Bureau of the Census interviewers as in HANES I. The interviewers will obtain socio-economic and demographic information on each household, select the sample persons from a household roster, and obtain medical

history data on the sample persons (SP's). The Census interviewer will also attempt to arrange with the SP an appointment time for examination.

4. Examinations, as in previous Health Examination Surveys, will be given in two sets of mobile examination trailers that have a standardized environment and selected high quality equipment. The Division of Operations, NCHS, will specify the required equipment given the survey specifications, hire, train, and manage the field teams to administer and conduct the examination.

5. Sample persons will be provided with transportation to and from the examination site or paid a mileage rate if they choose to drive their own cars. The SP will be reimbursed for the costs of other transportation to the examination site and return home. In addition, the examined persons will be paid \$10.00 for their participation in the survey and the inconvenience caused by such participation.

6. The results of the examination will be reported to an SP's usual source of medical care or to the individual if no release is obtained from the SP.

7. In accordance with Section 308(d) of the Public Health Service Act, NCHS assures each respondent that the confidentiality of their responses to this survey will be maintained and that any information from questionnaires or records identifying individuals will not be disclosed without securing prior written consent from the respondent.

#### B. EXAMINATION ASSESSMENTS AND JUSTIFICATION

1. *Anemias*.—the HANES I survey results indicate that anemia defined by low hematocrit and hemoglobin levels is an important health problem in the U.S. With public policy actions such as the recommendations by FDA that food products be enriched with iron and with some opposition to this action by members of the medical community, it is important to monitor the prevalence of anemias and also to attempt to characterize the type of anemia.

To characterize anemias, the following approach has been recommended by Dr. William Darby, President, Nutrition Foundation, Inc., CDC personnel and others.

a. Symptoms, signs, and causes of anemias are to be gathered in medical history questions and a physician's examination.

b. Biochemical indicators in blood would be assessed—hematocrit, hemoglobin, complete blood count, iron, iron binding capacity, folate, and protoporphyrin. On those in the normal range of hematocrit and hemoglobin a sample would receive the following battery of tests while all those with low values would receive the following tests: ferritin, Vitamins B<sub>6</sub>, B<sub>12</sub>, and Vitamin E, copper, zinc and lead.

c. Dietary data would be related to the above assessments to help explain some of the findings under a. and b.

To monitor anemia levels and change over time, many of the assessments are the same; the new tests are:

Protoporphyrin and ferritin (better measures of actual iron stores available at the cellular level),

Vitamins B<sub>6</sub>, B<sub>12</sub>, and Vitamin E (other than iron deficiency causes of anemia),

Copper and zinc (necessary trace metals related to anemia), and

Lead (lead burden can cause anemia).

The output of this set of assessments will be prevalence of anemias in the U.S. population by various characteristics described above; information on the interpretation and relationship of various indicators of anemia on a representative sample of the population; information on shifts in the prevalence of anemias prior to implementation of public policy decisions to enrich foods with iron and subsequent to that decision. Normative data will also be produced to assess the prevalence of deficiencies as well as toxic levels.

2. *Diabetes*.—Public Law 93-354 expanded the authority of the National Institutes of Health and the Center for Disease Control to advance the attack on diabetes mellitus providing millions of dollars for increased activity in diabetes prevention and control programs as well as for funding research and training centers. Accurate prevalence estimates are not available for the U.S. population; about two percent of the population is being treated for diabetes. The hypothesis of the American Diabetes Association and other experts in the medical field is that undiagnosed cases number two to three times the diagnosed cases.

DHES proposes to give a national probability sample of persons 18-74 years of age a diagnostic glucose tolerance test to estimate the total prevalence of diabetes in the U.S. Questionnaire data will include the proposed HIS battery of questions (OMB No. 68-1600) to correlate with the findings of the examination component of the proposed HANES II survey.

The procedure for having the standard glucose tolerance test performed is being explored to minimize the burden on the respondent. A pilot study will be designed to determine the most acceptable method logistically for conducting this assessment.

The assessment procedures are being developed with representatives of the American Diabetes Association, the National Institute of Arthritis, Metabolism, and Digestive Diseases (NIAMDD), HIS, and individual consultants. A pretest clearance request for a pilot study of respondent acceptance of the test procedure will be sent forward in the near future.

Diabetes is related to kidney, cardiovascular, and hypertensive diseases which are also proposed target conditions for this survey.

3. *Kidney Disease*.—Kidney disease and its treatment have major implications for such federal programs as HMO's, National Health Insurance, Medicaid, Medicare, and Comprehensive Health Planning Agencies. Federal programs authorized by the Social Security Amendments of 1972 have a variety of responsibilities that have enormous potential program costs involving the End-Stage Renal Disease Program under Medicare and other DHEW objectives to develop policies to carry out the legislative intent, to accommodate patterns of medical practice and care in treatment of renal disease, and to relate these activities to PSRO and other quality assurance programs.

Discussions with Dr. Nancy Cummings, NIH; Dr. Cutler, University of Washington; Dr. Schreiner, George Washington University, and the Subcommittee of the Special Committee on Statistical Needs of the National Kidney Foundation, indicated that estimates of the

prevalence of kidney disease and normative data relative to kidney disease do not exist for the U.S. population. The impact of serious renal disease on the individual and the medical care system suggest need for data that is not available from any other source. Assessment of kidney disease is particularly suitable for the HES mechanism because many cases of mild or early disease states are hypothesized to be undiagnosed leading to more severe than necessary kidney damage later in life.

The examination phase of the kidney assessment will consist of a number of urine assessments to determine urine protein, specific gravity, glucose and ketone bodies, and inspection of the urine sediment for red cells, white cells, epithelial cells, casts, and crystals. The urine could also be analyzed for bacteriuria. A kidney function test involving a creatinine clearance would also be administered. Serum albumin is also an important assessment. The consultants felt an adequate family history of hypertension, polycystic disease, kidney disease, deafness, and kidney stones was essential for data interpretation. The relationship of kidney disease to diabetes, hypertension, and cardiovascular disease is also important.

4. *Cardiovascular Disease (heart disease).*—The contribution of cardiovascular disease to morbidity and mortality in the U.S. population is well known. Federal programs have supported emergency medical services, preventive medical check-ups, careful diet, exercise, etc. Yet, sudden death outside of the hospital accounts for approximately 30 percent of the 600,000 annual deaths due to ischemic heart disease. A common opinion is that many sudden cardiac deaths are due to arrhythmias (deviation from the normal rhythm). With the support of the National Heart and Lung Institute, the proposed heart package below is designed to measure the number and duration of arrhythmias in persons 25–74 years of age in the U.S. population with a standardized two-hour electrocardiogram assessment. Other electrocardiograph abnormalities will also be noted and analyzed for prevalence data. A clearance request for pilot studying the procedure will be prepared in April 1975.

The plans for collection and analysis of data are being based on extensive consultation with the staff of the National Heart and Lung Institute; Dr. Hinkle, Cornell Medical Center; Dr. Schroeder, Stanford University Medical Center; Dr. Lown, Harvard University; and Dr. Cox, Washington University.

The ECG measurement would begin early in the examination with light exercise challenge sometime during the course of the examination. The exercise mechanism and related safety precautions are being investigated.

Other assessments related to the estimation of heart disease include: (1) blood pressure measurements; (2) medical history of heart disease and symptoms; (3) biochemical assessment of cholesterol, copper, zinc, uric acid and possibly magnesium; (4) a physician's examination for symptoms and signs; and (5) dietary intake data and medicines being taken for heart disease.

The data will be presented cross-classifying the cardiovascular symptoms, history, and other items by the number and duration of arrhythmias. Specific tables planned will be presented in the final clearance request.

5. *Liver Disease*.—A new method for detecting liver disease (non-specific) is proposed to provide prevalence data on a national basis. Considerable evidence suggests that there is a large amount of undetected anicteric liver disease that only becomes clinically apparent at advanced stages of cirrhosis. The prevalence data has important implications on the interpretation of data on nutritional status, alcohol consumption, and hepatitis virus. If resources can be identified, a test for hepatitis will also be included in the liver assessment.

Consultations on the development and interpretation of data sets have included Dr. Javitt, Cornell Medical Center, and Dr. Berg, NIAMDD. The test consists of a serum or urine test for bile salts after ingestion of food capable of causing contraction of the gall bladder (egg nog, peanut butter, etc.). Included in the test package would be:

1. Medical history data of liver disease.
2. Biochemical workup on serum of alkaline phosphatase, SGOT and bilirubin.
3. Alcohol consumption questions on the 24-hour recall and dietary frequency questionnaires.
4. Physician's examination for symptoms and signs.

No other source for this data exists. Detailed output tables will be submitted with a final clearance request, should the tests prove feasible in pilot studies.

6. *Hypertension*.—The National Heart and Lung Institute, state and local governments, and private concerns are investing millions of dollars in hypertension programs, drugs, etc. Prevalence data will exist upon completion of the HANES Detailed Examination, but the resources being devoted to active programs to reduce or treat hypertension indicate a need for monitoring the prevalence of the condition and the awareness of the condition. In addition, the target conditions proposed for HANES II require that hypertension be assessed concurrently with diabetes, kidney disease, heart disease, and obesity. The assessment will include:

1. Medical history data.
2. Blood pressure (two measurements).
3. Biochemical assessments of BUN, and creatinine.
4. Physician's examination for symptoms and signs.
5. Body measures—height, weight, and skinfolds.
6. Urine assessment.

The output tables from this assessment will be described in detail with the final clearance request. All examinees will receive this evaluation.

7. *Speech and Hearing Defects*.—The speech and hearing segment of the proposed examination would be given to all examinees 6–24 years of age. The only previous prevalence data for speech defects for the U.S. was developed from the Health Interview Survey. The magnitude of resources being devoted to speech problems is indicated by the 90,000 speech teachers working in public schools alone. The speech assessment will consist of evaluation of recordings of sentences repeated by the examinee in addition to a recorded description of a picture. The parameters to be assessed are articulation, fluency, voice, and language. The test procedure is being developed in consultation with Dr. Irene Stephens, Purdue University and Dr. Ludlow, NINDS.

Hearing levels will be assessed by means of puretone audiometry. Prevalence data for hearing levels are available from previous HES efforts, but the interrelationship between speech and hearing indicates at least a minimal set of frequencies should be evaluated to properly interpret the speech recordings. Middle ear pathology and, in particular, the prevalence of serious otitis media will be assessed by means of impedance measurements and physician's examination of the eardrum. These assessments are being developed in consultation with Dr. LaBenz, NINDS, and Dr. Northern, University of Colorado Medical School.

In addition, medical history and related questionnaire data will be developed. The output of the segment will be prevalence of speech defects and serious otitis media. Serious otitis media prevalence is of direct programmatic interest to a number of organizations in the Health Services Administration who specifically requested this be considered as a target condition.

8. *Osteoarthritis and Disc Degeneration in the Cervical and Lumbar Spines.*—Osteoarthritis is one of the most common diseases seen in older Americans. In many Americans, the disease is a major cause of disability in terms of limitation of activity and mobility. This is documented from HES Cycle I and HIS publications. No prevalence data are available on osteoarthritis and disc degeneration in the cervical and lumbar spines. Although the physical examination in assessment of osteoarthritis is difficult and rather inaccurate, radiologic methods are available for assessing the severity of the lesions. Male examinees 25–74 years of age will be given x-rays of the cervical and lumbar spines; females over 45 years of age will receive these x-rays. Medical history of osteoarthritis and symptom data will also be collected.

The output of the assessment will be prevalence of osteoarthritis of the cervical and lumbar spines by severity. Detailed tables will be presented in the final clearance request. Consultations have been with Drs. Decker and Bennett, NIAMDD, and Dr. O'Brien, Department of Medicine, University of Virginia.

9. *Allergies.*—Allergies occur in a considerable proportion of the population and are responsible for a large number of ambulatory medical care visits, utilization of many drugs, and cause a small number of deaths. In consultation with staff of the American Academy of Allergy (AAA) and the National Institute of Allergies and Infectious Diseases, DHES proposes to do a prick skin test for five or six common allergies in the mold, grass, tree, and ragweed groups. An official AAA Committee is considering exactly which allergens with these groups should be administered. The results will provide prevalence estimates on the number of persons and their degree of sensitivity to specific allergens. Medical history of allergies and symptoms will also be included. This information is not available from other sources. Typical output tables will be presented in the final clearance request.

10. *Nutritional Status.*—The results of HANES I indicate that a substantial number of nutritional problems exist in the U.S. Anemias were discussed earlier as a primary health condition of interest in HANES II. The *Preliminary Findings of the First Health and Nutrition Examination Survey, U.S. 1971–1972*, indicated specific biochemical and dietary intake problems for broad population groups. Federal,

state and local efforts in providing food stamps and food delivery programs, cost billions of dollars annually and affect millions of persons directly and indirectly. Many millions of dollars and other scarce resources are expended annually by the public and private sectors on nutrition education programs; research on the need for and effect of food enrichment programs; research on the complex relationship of health and nutrition variables; and the delivery of health services to under- and over-nourished persons. Food producers are, or will be, required to label the nutritional contents of their products so that an "informed" public can make more rational selection of foods consumed. Providing concrete indicators of nutritional status to such programs and monitoring changes in these indicators over time fulfills a data need provided by no other source on a national basis and at a relatively low incremental cost when combined with other target assessments proposed.

Evaluation of nutritional status will include:

a. The physician's examination will be comparable to that of HANES I. It is a brief examination with regards to clinical signs of malnutrition.

b. Body measures comparable to those of HANES I are proposed to assess growth, development, and obesity in all population groups.

c. Biochemical and other laboratory assessments to assess the prevalence of nutrient deficiency or toxic levels of nutrients (anemia assessments mentioned previously):

1. Vitamin A deficiency in children and older Americans will be monitored.

2. Vitamin C deficiency and normative data will be measured.

3. Riboflavin deficiency and normative data will be measured by a red cell enzyme test.

4. Thiamine deficiency and normative data will be measured by a red cell enzyme test.

d. Food frequency and 24-hour recall data will be collected to estimate for population groups the nutritional value of reported food intakes, how often certain foods and food groups were eaten, and other factors related to dietary practices, such as numbers of meals or snacks consumed, and use of vitamin and mineral supplements. The objective is to relate these items to the other assessments of nutrition and health.

e. Questionnaire data applicable to nutritional assessment include menstrual period information, medical conditions currently and recently, operations recently, special diets, use of medications including birth control pills, vitamins, pregnancy status, and special eating problems.

The assessment of nutritional status has been developed on the basis of the results of HANES I, recommendations of the American Public Health Association's Conference on Nutritional Assessment, recommendations of numerous individuals with regards to the continuing need for information on obesity, trace elements, diet supplementation and its effects, etc. Of special note is the exchange of information with staff of the U.S. Department of Agriculture to ensure that the data collected on dietary intake is comparable to their proposed Food Consumption Survey. Having comparable data with DHES relating this data to specific health status measures,

national food and health analysts are provided with important correlative data that neither the HANES mechanism nor the USDA survey could individually provide. Discussions have been with Dr. Rizek and a number of other staff members.

Where possible, the HANES I procedures will be employed in HANES II to provide comparable data from one survey to the next. Specific tabular output from the assessment will be submitted with the final clearance request.

11. *Miscellaneous Assessments.*—a. Miscellaneous medical history and questionnaire data to be collected:

1. Medical care sought with respect to specific target conditions.
2. Impact on the individual of specific target conditions with respect to limitation of activity and bed days.
3. Smoking questions to relate to target conditions and a measure of carboxyhemoglobin discussed below.
4. Participation in major federal programs related to health and nutrition.
5. Socio-economic demographic data about the household and individual.
6. A brief measure of psychological well-being similar to that employed in HANES I.

b. The Federal Energy Administration (FEA) has indicated a strong interest in having a carboxyhemoglobin assessment done on a national probability sample of persons as an indicator of carbon monoxide body burden. EPA has some data on special population groups, but national data are not known from any source. Important health effects occur when carboxyhemoglobin reaches 3 percent and continue to get more serious as the level increases. Dr. Blair and Mr. Viren of FEA have consulted with DHES staff on this project.

FEA, FDA, and EPA have indicated an interest in having lead assessments extended to all examinees and not limited to a subsample as proposed. Doing both assessments would involve support from the agencies involved to fund the laboratory assessments on blood.

c. Assessment of pulmonary function is proposed for a sample of persons 6–24 years of age. Spirometry methods developed in the HANES I Detailed Examination on persons 25–74 years of age would be repeated to obtain normative data for pulmonary function for the young age group 6–24 years of age.

d. Syphilis and gonorrhea assessment. Dr. Sencer, CDC, has specifically requested HANES II to include assessments which could lead to the estimation of the percentage of persons with a reactive blood test for syphilis and the percentage of women who are culture positive for gonorrhea.

The objective of obtaining the information would be of great value in measuring the extent and distribution of gonorrhea and syphilis and evaluating the impact of present and past control efforts.

A number of technological and acceptance problems concerning these assessments require further discussion between DHES and CDC staff. A feasibility study will be conducted prior to studying the problem of acceptance of the gonorrhea culture. A clearance request will be submitted shortly.

Specifics for all examination components and questionnaires will be submitted in pilot study clearance requests. The overall examination time and burden on the respondent will be less than in the HANES I survey.

#### C. TABULATION AND PUBLICATION PLANS

This item will be completed in detail when a final clearance is requested.

#### D. TIME SCHEDULE FOR DATA COLLECTION AND PUBLICATION

1. Various pilot studies—June 1975–October 1975.
2. Data Collection—January 1976–November 1978.
3. Data preparation and editing—December 1978–April 1979 (plus concurrently with 2.).
4. Data analysis and manuscript preparation—May 1979–October 1981.
5. Reports to Publications—November 1979–November 1981.

#### E. CONSULTATIONS OUTSIDE NCHS

Approximately eight hundred medical providers, planners, researchers, and educators were asked to recommend to DHES staff major health problems for which there was a need for national data to assess the nature and extent of the problem(s). Approximately two hundred replies were received and reviewed. For those suggestions that were deemed feasible, the specific suggestions and follow-up consultations are stated in the discussion of the survey content. The Five Year Forward Plans for all health agencies were reviewed for national priorities; current and proposed legislation were considered important criteria for inclusion if data sets were not available from other sources. Input of general program scope and broad content recommendations were developed from meetings and memoranda between DHES staff and the program representatives listed in Attachment 1. Input was also requested from the NCHS Panel of Advisors. Copies of the letters sent to the medical community and the Panel of Advisors are also in Attachment 1.

The list in Attachment 1 is not exhaustive of sources who have contributed to the present stage of the survey plan. Many individuals are mentioned in the discussion of the specific topics presently included as potential items for the HANES II program.

The plan proposed in this document will continue to be evaluated and many others will contribute input to the final plan submitted in the fall 1975.

#### F. RESPONDENT BURDEN WILL BE CALCULATED IN DETAIL IN THE FINAL CLEARANCE SUBMISSION FOR THE PROJECT

#### G. SENSITIVE QUESTIONS IN THE USUAL SENSE ARE NOT ANTICIPATED

There will be questions concerning the use of birth control pills, menstrual period, blood in the urine, and the like, but in a medical setting these are common questions and necessary. Birth control pills affect the level of biochemical values observed in a number of vitamins.

It is important in analysis to be able to control pill usage. Anemia in women cannot be analyzed without knowing if the woman was having her period at the time of examination. Blood in the urine is an important symptom related to a number of health conditions and specifically to anemia and kidney disease.

The treatment above is brief, but each "sensitive" question proposed for inclusion in pilot studies or in the final clearance will have a justification of a similar nature. Confidentiality is covered in Section A., item 7.

#### H. ESTIMATE OF COST TO THE FEDERAL GOVERNMENT

The annual cost of the proposed project, including overhead is approximately four million dollars. Support from other government agencies has not been finalized, but NIAMDD has indicated that \$40,000-60,000 would be available to support the assessment of diabetes. The National Heart and Lung Institute has indicated some support would be available for equipment and analysis of the heart disease component, but level has not been established. The Bureau of Laboratories, CDC, has some objectives that enable that organization to bear some of the true costs of supporting a large scale national effort to develop biochemical norms and prevalence of specific deficiencies or toxic levels of vitamins or substances; the level of the contribution is unknown, but should be recognized.

## LETTER SENT TO NCHS PANEL OF ADVISORS

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In planning previous Health Examination Surveys, the advice of the NCHS Panel of Advisors has been of great value, especially in identifying current needs for health information. The Division of Health Examination Statistics (DHES) is now planning another Health Examination Survey which will begin early in 1976. We would again appreciate your assistance.

As you are aware, the purpose of the health examination mechanism is to provide those national health statistics which can be best, or exclusively, obtained by direct examinations, tests, and measurements conducted on probability samples of the noninstitutionalized U.S. population. Results are published as prevalence estimates of medically defined conditions, as indicators of nutritional status, and as distributions of the population with respect to selected physical, physiological, nutritional, and psychological characteristics. By interrelating medical history forms, questionnaire items, and examination findings, it is possible to estimate the number of people who have a specific condition, such as hypertension or diabetes, but would not report it on an interview survey because they do not know they have it. In addition, met and unmet medical care needs can be identified, and the utilization of services and the source of payment for services can be related to specific conditions.

In the 1976 examination survey the nutritional status of the U.S. population, 1-74 years of age, will again be assessed. In addition, major components included in the first Health and Nutrition Examination Survey (HANES I) program will remain unchanged in the new survey so that changes over time can be monitored. Some nutritional assessments included in the HANES I program will be deleted, while others will be added. Your recommendations concerning modifications to the nutritional component are requested.

A single visit, two-hour examination cannot thoroughly assess all aspects of health. Hence, in planning the new survey, the survey staff must:

1. identify selected health conditions that can be measured within the allotted time period with a minimum of discomfort or embarrassment to the examinee, and
2. determine whether the proposed health conditions can be reliably measured considering the logistic, staffing, and equipment requirements involved and the resources available to the survey.

In HANES II, a subset of the adult group 18-74 years of age will receive a more detailed health examination focusing on selected target conditions and certain normative health data. Suggested target conditions will be evaluated for inclusion in the light of both the above criteria and the following ones:

1. the prevalence of the health condition,
2. the relevance of the condition to proposed or implemented national legislation and DHEW priority programs,

3. the impact of the condition on utilization or need for medical care services,

4. the effect of the condition on the person in regard to discomfort or disability, and

5. the need for data that cannot be met or provided by other sources or by data collected during previous national Health Examination Surveys.

The Health Examination Survey staff would appreciate your recommendations on health conditions that satisfy these criteria. Any suggestions or comments you make will be reviewed immediately. Please do not confine your recommendations to the adult age group, because brief physical and biochemical assessments, as well as a nutritional assessment, may be performed on children. Please direct the recommendations to:

Mr. Robert S. Murphy  
Chief, Survey Planning and Development Branch  
Division of Health Examination Statistics  
National Center for Health Statistics  
5600 Fishers Lane  
Rockville, Maryland 20852

If you are aware of persons with special expertise relating to the recommendations you have, please include their names and state their possible contribution toward developing a component in the next survey.

Because of the lengthy period required to formulate the various aspects of the examination, pretest them and to field the survey, I would appreciate your recommendations at your earliest convenience.

Sincerely yours,

EDWARD B. PERRIN, Ph. D., *Director.*

## LETTER TO DIRECTORS, MEDICAL RESEARCH INSTITUTES; CHAIRMEN, DEPARTMENTS OF PEDIATRICS AND MEDICINE

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On behalf of the Health Examination Survey, I am seeking your aid in planning our next program. The Health Examination Survey, a part of the National Center for Health Statistics, was established by Congress in 1956 to obtain information about the health status of the U.S. population.

Since 1960, the Survey has conducted health and nutrition examinations on probability samples of the civilian noninstitutionalized population of the U.S. Successive surveys have focused on adults 18-79, children 6-11, and youth 12-17 years. The examinations are conducted in specially designed mobile examination centers. Among the examination procedures that have been employed are:

- chest X-rays for pulmonary and cardiac pathology,
- hand, foot, hip and knee X-rays for arthritis,
- hand-wrist X-rays for skeletal age assessment and bone densitometry,
- electrocardiograms, spirometry, and single breath carbon monoxide tests,
- an exercise tolerance test using a treadmill, grip strength, and blood pressure,
- audiometric pure tone and bone conduction tests,
- a clinical ophthalmology examination by an ophthalmologist,
- a dermatology examination by a dermatologist, including a skin biopsy when indicated and fungus cultures,
- a battery of intellectual development, school achievement, and literacy tests,
- a psychological evaluation schedule,
- anthropometric measurements,
- a variety of specially structured examination items by a physician,
- a dental examination by a dentist and an enamel biopsy for fluoride content,
- hematocrit, hemoglobin, RBC, WBC and differential counts, blood groups and urine cultures,
- laboratory determinations on blood for glucose, cholesterol, uric acid, PBI, T<sub>3</sub>, T<sub>4</sub>, iron, iron binding capacity, folates, albumin, total protein, calcium, phosphorus, magnesium, alkaline phosphatase, SGOT, Vitamins A and C and bilirubin,
- urinary thiamine, iodine, riboflavin and creatinine,
- serological determinations for antibodies against amebiasis, polio, rubella, measles, syphilis, tetanus, and diphtheria and a tuberculin skin test, and a large variety of medical histories and records including birth certificates of examinees.

The findings provide information about the following:

- the prevalence and distribution of selected health conditions present in the general population—diagnosed and previously undiagnosed conditions,

- growth and development patterns of children and youth—physical, physiologic, and behavioral,

- indicators of nutritional status for the U.S. population aged 1-74 years,

- met and unmet medical care needs related to specific target conditions for adults, and

- normative data for the U.S. population aged 1-74 years.

We are planning to conduct, in early 1976, a new survey of the U.S. population aged 1-74. The sample will consist of approximately 25,000 individuals. In the past, we have relied on the advice of a large number of experts in different fields in planning the content of our programs.

The conduct and operation of the new program will be similar to that of the current Health and Nutrition Examination Survey (HANES). (See enclosed publications for a description of HANES I). Appropriate examination components will be provided for both pediatric and adult age groups. To identify important items of interest to the medical community, which are suitable for our survey operation, various experts including the directors of medical research institutes throughout the U.S. are being asked to submit suggestions that will help decide what the content of the next survey will be.

I would appreciate your passing this letter along to appropriate faculty members in your department so that they, too, might submit suggestions. Further involvement by interested consultants has included participation in the planning and conduct of the survey, and, in the past, in the analysis and publication of the data.

If you have any questions, please contact me at your convenience.

Sincerely yours,

ARNOLD ENGEL, M.D.,  
*Medical Director,  
 Division of Health Examination Statistics.*

## OUTSIDE CONSULTATION IN HANES II

### PARTIAL LIST

#### *Administration on Aging*

Dr. Donald M. Watkin, Chief, Nutrition on Aging.

#### *Center for Disease Control*

Dr. David Sencer, Director.

Mr. Norman W. Axnick and Staff Office of Program Planning and Evaluation.

Dr. David Bayse and Staff Chief, Analytical Biochemistry Branch.

#### *National Institutes of Health*

Dr. Robert L. Ringer, Deputy Director, National Heart & Lung Institute.

Dr. Manning Feinleib, Chief, Epidemiology Branch, Division of Heart & Vascular Diseases, National Heart & Lung Institute.

Dr. William L. Zukel, Associate Director for Clinical Applications and Prevention, Division of Heart & Vascular Diseases, National Heart & Lung Institute.

Dr. G. Donald Whedon, Director, National Institute of Arthritis, Metabolism & Digestive Diseases.

Dr. Eldon Eagles, Deputy Director, National Institute of Neurological Diseases & Stroke.

Dr. Merrill Read, Associate Director for Extramural Programs, National Institute for Child Health and Development.

#### *Health Services Administration*

Dr. Robert Van Hoek, Acting Deputy Administrator.

Dr. Emery Johnson, Director, Indian Health Service.

Mr. Royal Crystal, Assistant to the Director, Bureau of Quality Assurance.

#### *National Institute of Occupational Safety and Health*

Mr. Ronald F. Coene and Staff, Office of Program Planning & Evaluation.

#### *Special Committee on Statistical Needs, National Kidney Foundation*

Dr. Darrell Farnestil, Chairman, Department of Nephrology, University of California.

#### *American Diabetes Association*

Joyce Kortman, Advisory Committee, NIAMDD.

Dr. Harvey Knowles, Chairman of the Statistical Committee.

Dr. Kelly West, Department of Medicine, University of Oklahoma.

#### *Nutrition Foundation, Inc.*

Dr. William Darby, President.

#### *Food and Nutrition Board—Committee on Nutrition of the Mother and Preschool Children*

Roy M. Pitkin, M.D., Chairman.

#### *Food and Drug Administration*

Dr. Charles Anello, Director, Division of Statistics, Bureau of Drugs.

Dr. Martha Fox, Division of Nutrition, Bureau of Foods.

Dr. Catherine Mahaffey, Project Manager, Lead Contamination of Food, Bureau of Foods

#### *U.S. Department of Agriculture*

Dr. Walter Mertz, Chief, Nutrition Institute

Dr. Robert Rizek, Director, Consumer & Foods Economics, Research Division, Agriculture Research Service.

Mr. Stephen J. Hiemstra, Assistant to the Administrator, Food and Nutrition Service.

#### *Early and Periodic Screening, Diagnosis, and Treatment Program (EPSDT)*

James Kolb, Program Analyst.

*National Institutes of Mental Health*

Dr. Earl Pollack, Deputy Director, Biometry Branch.

*Federal Energy Administration*

Dr. Joseph Blair, Medical Consultant, Office of Research and Development.

Mr. John Viren, Office of Environmental Programs.

*Environmental Protection Agency*

Dr. George Simon, Health Effects Division.

Mr. Leland McCabe, Water Resources Laboratory.

## APPENDIX M

### CENTER FOR DISEASE CONTROL, NUTRITION PROGRAM

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A. The mission of the Nutrition Program is (1) to identify specific high-risk population groups and to further define the existence, character, and extent of the nutritional problems and (2) to develop and evaluate intervention programs aimed at the problems.

B. The principal mechanisms by which the above are achieved are through technical and financial support of projects conducted by health agencies, colleges and universities, and related groups. Both grants and contracts are utilized to provide financial support.

C. Specific examples of program activity to meet the objectives follow:

1. Nutritional status studies have been conducted in a variety of high-risk groups as a means of identifying the location of nutrition problems. Examples are:

a. Ten-State Nutrition Survey with emphasis on low income families

b. Studies of migrant populations

c. Studies of American Indians

2. Various intervention techniques have been field tested to observe their impact on nutritional status. Two examples are:

a. The use of highly fortified foods have been studied as a means of preventing iron deficiency anemia.

b. Nutrition education has been studied as one method of reducing maternal and infant morbidity and mortality.

3. Technical assistance has been provided by the assignment of public health advisors to projects and health agencies.

4. Consultation is provided to various agencies on such topics as program planning and evaluation.

5. The program works closely with national professional groups in promoting and sponsoring workshops to deal with topics such as:

a. Nutrition education in medical schools

b. Reviewing and developing standards for interpreting iron nutriture

c. Setting guidelines for interpreting anthropometric data

International activity has essentially the same focus. The programs are implemented by cooperative arrangements with US/AID, Public Law 480, and intramural arrangements.

Some examples of projects are:

1. A tri-partite study of malabsorption has been supported.

2. Staff has participated in the development and conduct of an assessment of nutritional status in Bangladesh.

3. Guidelines were developed for a simplified assessment of nutritional status in developing countries.

4. A study of the effects of nutrition education is being conducted under a Public Law 480 contract.

In addition to the foregoing types of program activity, the Program has served as the coordinating agency for a variety of HSMHA and DHEW projects including the provision of staff services for the Nutrition Coordinating Committee of DHEW.

D. Since the Nutrition Program is not oriented toward any specific age or ethnic group nor toward any specific disease category as such, the total population at high nutritional risk constitutes the ultimate consumer of its services.

E. Mutual interests with other HSMHA groups as well as other federal agencies result in some similarity of program plans and implementation. Both formal and informal efforts are exerted to prevent any duplication of services. Staff participation in such groups as the Interagency Committee on Nutrition Education, close liaison with such groups as MCHS, IHS, Regional Officer, USDA, and joint planning on project development help prevent an overlap of services.

F. Staff has included:

4 physicians	1 health educator
3 public health nutritionists	1 editor-writer
8 public health advisors	1 plant physiologist
2 statisticians	19 administrative and supportive personnel
1 public health analyst	

Total budget for fiscal year 1973 is \$2,366,000.

G. There are no written guidelines for the Nutrition Program. Currently in preparation are:

1. "Guidelines for the Assessment of Nutritional Status as a Component of Public Health Programming"

2. A procedure manual for response to disaster

3. "Methodology for Simplified Assessment of Nutritional Status in Developing Countries"

H. No licensure is connected with program activities.

I. The Nutrition Program will be terminated June 30, 1973.

## APPENDIX N

### REQUIREMENTS FOR DATA FROM THE 1977 NATIONWIDE FOOD CONSUMPTION SURVEYS FOR SPECIFIED PROBLEM AREAS AND USERS

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#### INTRODUCTION

This paper identifies the types of data from the proposed 1977 surveys of household and individual food consumption needed or major categories of problems for which specified Federal agencies have authorized responsibility. For each problem-area, topics for reports, articles, bulletins, and administrative studies are suggested, along with their possible objectives and users. The topics and objectives provide the basis for specification of data needs especially for changes from the types of data available from the 1965-66 surveys. Finally, the paper provides indications of forms for making data and analytical findings available to user groups.

The problem-areas are outlined below:

- I. Public information (U.S. Department of Agriculture-USDA):
  - A. Variations and changes in food consumption, diets, and dietary adequacy.
  - B. U.S. food market in 1977 and changes since 1965-66.
- II. Food market research and demand analysis (USDA):
  - A. Agricultural policy and programs.
  - B. Agribusiness problems.
- III. Formulation of food plans at alternative cost levels (USDA).
- IV. USDA food policies and programs:
  - A. Relevant to general public.
  - B. Dealing with low income families.
  - C. Problems of specified population groups.
  - D. Food and Nutrition Service's administrative studies.
- V. Fishery and game problems (National Marine Fisheries Administration-NMFA):
  - A. Health related.
  - B. Market research.
- VI. Health related problems:
  - A. Responsibilities of Food and Drug Administration (FDA).
  - B. Responsibilities of other agencies in the Department of Health Education, and Welfare (HEW) such as Public Health Service and Center for Health Statistics.
- VII. Scientific problems relevant to (USDA):
  - A. Sciences of food and nutrition.
  - B. Food technology.
  - C. Consumer education.
  - D. Survey methodology.

# VIII. Income-related problems—HEW, USDA:

- A. Measurement of poverty.
- B. Evaluation of impact of current income-maintenance programs on subsistence levels of specified population groups.
- C. Appraisal of needs for changes in Federal income-maintenance program.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

### I. Public information re:

#### A. Variations and changes in food consumption, diets, and dietary adequacy:

1. Food consumption of households in U.S., 4 regions—spring 1977 other seasons and year 1977.
2. Changes in consumption of selected foods between 1965-66 to 1977.
3. Seasonality of consumption and price for selected foods.
4. Dietary levels of households in U.S., 4 regions—spring 1977 other seasons and year 1977.
5. Changes in household diets between 1965-66 and 1977.
6. Impact of changes in home food production on household diets.
7. Food patterns of households with good and poor diets.
8. Food and nutrient intakes of individuals in sex-age groups, spring 1977—U.S., by region, urbanization, and income.
9. Food patterns of individuals with good and poor diets.
10. Patterns of food intake at home and away from home of individuals in selected sex-age groups.
11. Variations in individual diets among households with homemakers having specified characteristics.
12. Portion sizes and frequency of use for selected foods—by sex-age group and area.

Provide data and brief descriptions of current consumption of major foods by households grouped by urbanization and income to enhance public understanding of current food situation and changes since 1965-66.

Provide data and brief descriptions of nutrient supplies and adequacy of household diets in 1977 and comparisons with 1965-66 to inform public.

Supply data on diets of individuals during several days (week?), in order to inform public about variations in diets and problems of particular population groups.

Provide data on variations in intakes of individual foods.

### *User groups*

News media, general public, government agencies, the Congress, food industries, dietitians and other health specialists, producer groups.

### *Data needs*

Food in categories matching 1965-66 data and for matching population groups. Family and individual characteristics to expedite specification of particular consumer groups—e.g., ethnic, income.

Because of inflation, selected sets of 1965-66 data should be given for households grouped by income in 1977 dollars to expedite comparisons of the two sets of survey data.

*Forms for output*

Survey reports with tables comparable to those in 1965-66 survey reports 1-17, but brief narratives of press-release type. Brief articles and short bulletins focused on particular population groups and particular commodities. Data tapes without sampling unit identification.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

## B. U.S. food market description:

1. Structure of food market in 1977 compared with 1965-66.
2. Cross section indexes of food consumption in spring 1977 and changes since 1955 and 1965.
3. Changes in use of processed foods and other categories of marketing.
4. Seasonality of food consumption in 1977 with comparisons.

Provide basic information on market structure and segments for all foods and major foods in 1977 and historical comparisons for use in market research and appraisal of country's food situation.

*User groups*

Food firms and industry groups, agricultural organizations; agricultural economic researchers in government agencies, universities, and business; market researchers, mass media.

*Data needs*

Maintain comparability with 1965-66 survey data.

*Forms for output*

Articles in USDA periodicals, short bulletins, press releases for food industry and agricultural publications.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

## II. Food market research and demand analyses for:

## A. Agricultural policy and programs:

1. Key factors in changes in food consumption and food marketing 1955 to 1977—all foods, major food groups.
2. Alternative estimates of potential domestic consumer demand for major categories of agricultural commodities.

To provide economic analyses of historical changes in U.S. consumer demand for agricultural commodities and projections of future changes under alternative assumptions for use in public and private decision making regarding resource development, public subsidies, production adjustments, etc.

*User groups*

U.S. government administrators, farm organizations, Congressional committees, land-grant college researchers, resource planners.

*Data needs*

Maintain comparability with 1965-66 survey data for food in marketing groups and individual major items.

Family characteristics, food program participation.

*Forms for output*

USDA bulletins, articles in USDA periodicals and professional journals. Detailed data tapes for both 1965-66 and 1977 and seasons.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

## B. Agribusiness:

1. Factors related to changes in U.S. market for specific foods and in specified forms.
2. Marketing implications of changes in amounts, place, and form of food consumed by major population groups.

Provide analytical basis for decision making in agribusiness firms and guidance for food market research.

*User groups*

USDA administrators, farm organizations, food industry firms and organizations, Congressional committees, land-grant college researchers, market research groups.

*Data needs*

Data comparable with 1965-66 survey data for food marketing categories and major foods, with as much detail on forms of foods and consumer characteristics as possible.

*Forms for output*

Survey reports with tables comparable to those in 1965-66 survey reports 1-17, but brief narratives of press-release type.

Brief articles and short bulletins focused on particular population groups and particular commodities. Data tapes without sampling unit identification.

**EXAMPLES OF TOPICS IN PROBLEM-AREA****OBJECTIVES****III. Development of food plant at several levels of cost:**

1. Description and uses of revised USDA food plans at several levels of cost.
2. Food plans for specified family types.

To develop food plans for use in consumer education and in administration of food and welfare programs.

*User groups*

Government administrators and welfare agencies, mass media, extension staffs, consumer groups, home economics teachers.

*Data needs*

Carefully edited data on money value and quantities of individual foods consumed at home by families with various characteristics and improved measures of household size and nutrition units.

*Forms of output*

Bulletins, articles in USDA periodicals.

**EXAMPLES OF TOPICS IN PROBLEM-AREA****OBJECTIVES****IV. USDA food policies and programs relevant to:****A. General public:**

1. Relationship of changes in income—food relationships and food resource allocations to major economic and social trends.
2. Comparison of variations and changes in food consumption and nutrient supplies in U.S. with those for other developed countries.
3. Relationship of changes in food patterns of individuals (a) to changes in consumer demand for food and food marketing services and (b) to changes in dietary adequacy.
4. Identification of food problems of consumers grouped by family and individual characteristics.

To appraise the impacts of inflation, economic growth, demographic changes on household food consumption.

To evaluate the current relative food and dietary situation of U.S. consumers in comparison with those in Western European countries and Japan and how inflation has changed relationships.

To appraise the overall effects of changes in food supplies and other economic and social changes on food patterns of individuals, an aggregate consumer demand, and on dietary patterns and adequacy.

To identify broad consumer groups with gross types of food and dietary problems.

*User groups*

Government administrators, Congressional committees, international food and agricultural organizations, consumer organizations, food industry researchers, food and health researchers.

### *Data needs*

Data on food used by households at home in a week of 4 seasons and 1977 and by individuals based on 24-hour recalls to match spring 1965 data as well as diets for several days. Also nutrient supplies based on several sets of food data. Need alternative measures of household size and nutrition units so must get more complete counts of meals eaten by household members in week.

### *Forms for output*

Articles in USDA periodicals and scientific journals. Brief bulletins. Detailed data tapes with foods classified on nutritional bases and with matching nutrient data for use by researchers in government agencies, universities, and private research organizations.

#### EXAMPLES OF TOPICS IN PROBLEM-AREA

#### OBJECTIVES

##### B. Low income people:

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|--|--|
| 1. Allocation of food resources related to family size and composition and to stage in family life cycle.  | To measure effects of demographic characteristics on food expenditures of low income people for use in planning and administering food programs.                             |
| 2. Interrelationships among several aspects of poverty, food patterns, and adequacy of household diets and of diets of individual family members.      | To measure the impact of poverty on diets and the possibilities for improvement.   |
| 3. Food consumption and dietary adequacy of households and individuals participating and not participating in government food and/or welfare programs. | To evaluate the effects on dietary adequacy of certain government programs.  |
| 4. Possible alternatives for improvements in diets of low-income individual and families.  | To summarize the implications of relationships between dietary adequacy and specific food patterns for choices among alternative programs to increase food purchasing power. |

### *User groups*

Government administrators, Congressional committees, welfare agencies consumer organizations, special interest groups, university researchers.

### *Data needs*

Money value and quantities of major foods and all foods consumed at home by households, their nutrient contents, and the family characteristics as well as counts of all meals (including snacks) eaten in a week at home and away. Also, detailed data on foods eaten, time and place of eating for every individual in household for number of days still to be determined. Careful measurement of income (possibly including nonmoney income) and of nonpurchased foods; need probing questions regarding current and recent participation in specific government programs.

### *Forms for output*

Articles in USDA and professional periodicals. Short bulletins. Detailed data tapes for use by researchers in universities, other government agencies, and private research organizations.

#### EXAMPLES OF TOPICS IN PROBLEM-AREA

#### OBJECTIVES

##### C. Selected groups of households and of individuals:

- |  |   |
|--|---|
| 1. Consumption of major foods and dietary problems of each selected population group and appraisal of their relationships. | To measure relationships of potentially important factors to food and dietary problems of selected groups such as blacks, Spanish Americans, farm families in particular regions. |
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## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

2. Potential benefits of specified minimal changes in food patterns of groups based on certain criteria (e.g., race, ethnic background, farm operators).

Starting from known dietary problems, examine variations in food patterns within group to determine cultural possibilities of minor changes to achieve dietary adequacy.

*User groups*

Government researchers and administrators, special interest groups, university researchers.

*Data needs*

Additional family characteristics such as race, ethnic background, religious food practices, occupation and education of all adults, identification of pregnancy, specification of ethnic foods.

*Forms of output*

Articles, short bulletins, data tapes for special groups.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

## D. Programs of Food and Nutrition Service:

1. Food consumption and dietary patterns of participants and of nonparticipants with comparable characteristics.
2. Multivariate analyses of critical factors in food and nutrient patterns of participating households and individuals and comparable nonparticipants.
3. Cost-benefit analyses of alternative programs to improve dietary levels of specified population groups.

To appraise effects on diets of participation in FNS programs.

To measure relative importance of socioeconomic factors related to program participation and to food patterns of participants and nonparticipants.

To identify criteria for evaluation of alternative dietary improvement programs and to evaluate their costs and benefits.

*User groups*

Government administrators, special interest groups, Congressional committees, health researchers.

*Data needs*

Detailed data on various forms of money and nonmoney income, program participation. Additional family characteristics and possibly some family value measures.

*Forms of output*

Articles, short bulletins, data tapes for low income households and individuals for use of researchers in other government agencies and universities.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

## V. Related to fishery products and game (National Marine Fisheries Service):

## A. Health related problems:

1. Variations in consumption of particular species of fish and in intakes of microconstituents.
2. Contributions of fish consumption to intakes of microconstituents.

To have detailed data tapes for analysis of consumption patterns for fish to appraise potential health hazards of microconstituents.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

## B. Market research:

1. Socioeconomic factors related to variations and changes in household fish consumption.
2. Projections of consumer demand for major species and forms of fish and shellfish.

To specify the structure of 1977 consumption market and to measure relationships of major factors to variations and trends in consumption.

To make projections of consumer demand to help the fishing industry prepare for changes by shifts in investment in production and marketing facilities.

*User groups*

Government administrators and researchers, fisheries industries, ecologists, health researchers, consumer groups.

*Data needs*

Detailed data on several days' diets, as in HEW needs, and details on general types of fish and on specialty items containing fish, forms, place of consumption, seasonal variations.

*Forms of output*

Bulletins, articles, administrative reports, detailed data tapes.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

## VI. Health related—HEW:

## A. Food and Drug Administration's area of responsibility:

1. Variations in intake of individual foods, nutrients, and specified harmful substances by individuals with specified characteristics.

To use detailed data tapes to evaluate possible effects of alternative administrative decisions such as maximum levels of chemicals or nutrient supplements or any other hazardous substance.

## B. Center for Health Statistics, Public Health Service, NIH:

1. Epidemiology of major dietary problems.
2. Comparison of health survey findings re nutritional status and 24 hour diets with variations in individual food intakes based on 1977 survey.

To appraise relationships between current diets and health problems of subgroups in the population.

*User groups*

Government administrators, Congressional committees, health researchers, food and drug industries, consumer groups.

*Data needs*

Diets of individuals for as many days as possible without biasing food patterns or reporting. As much detail about foods used as respondents can report, especially re fortification, enrichment, additives. Need height, weight, and some health characteristics of individuals to relate food pattern data to health survey data.

*Forms for output*

Detailed data tapes for administrative use and for researchers' use in universities and private research organizations, articles, administrative reports.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

## VII. Scientific problems related to:

## A. Sciences of food and nutrition:

1. Variations in food consumption and dietary intake among families and individuals with varying characteristics.

To measure relationships among (a) individual and family characteristics and (b) variations in food consumption and (c) variations in intakes of major nutrients so as to provide solid basis for linking observed human behavior and experimental research.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

2. Changes in food patterns of selected sex-age groups and factors related to them.
3. Factors related to dietary adequacy of individuals at various stages in life cycle.
4. Evaluation of relative importance to dietary adequacy of consumers' food and nutrition knowledge, food industry practices, and government programs.
5. Development and testing of generalizations regarding food consumption patterns and food-income relationships.
6. Evaluation of alternative approaches to solving dietary problems among teenagers, elderly people, and other specific population groups indicated by the 1977 survey and identification of needs for specified types of research.
7. Effects of changes in RDA on evaluation of dietary adequacy.
8. Significance of major meal patterns for relationships between nutrient ratios in observed diets and comparisons with ratios derived from RDAs.
9. Effects of revised procedure for calculating nutrition units on measures of variability in household diets and of their adequacy.

- To test hypotheses developed from cross-sections with data on changes between surveys in 1965 and 1977.
- To determine the extent to which the relationships of dietary adequacy to socioeconomic factors vary with age.
- To improve the scientific basis for evaluation of alternative programs for dietary improvement especially to overcome food fad industry oversight and to evaluate programs such as nutrient labels.
- To develop scientific basis for projecting changes in consumption.

Based on measurements of relationships and known patterns of variations, to identify ranges and possible changes in dietary intakes that might result from alternative approaches such as educational programs, fortification, genetic changes. Then identify the areas for further research.

To measure the impact of changes in RDA on proportions of the population falling below the standards.

To appraise differences between ratios of nutrients implicit in Recommended Dietary Allowances and those derived from observed diets of particular sex-age groups.

To measure the effects of combining age groups in households according to observed ratios to observed intakes of moderately active younger men instead of the ratios calculated from RDAs as well as using a possible new procedure for taking account of meals eaten away from home.

*User groups*

University teachers and researchers in foods and nutrition, researchers in government agencies and private research foundations concerned with food sciences, food economics, and human nutrition and health.

*Data needs*

Household data on food consumption comparable to those obtained in 1965-66 plus additional information on family characteristics, kinds of meals eaten away from home by each family member, matching 24-hour intakes by recall, and dietary data for individuals for additional days. Also a brief test of nutrition knowledge of homemakers.

*Forms of output*

Professional articles in scientific journals, research bulletins to report technical analyses and findings, detailed data tapes for use by other researchers.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

## B. Food technology:

1. Socioeconomic factors related to consumption of particular foods in different forms and with different characteristics.

To measure consumer demand for recent and potential technological developments.

2. Importance of changes over last decade in use of prepared foods to consumer demand and to changes in dietary adequacy.
3. Projections of changes in consumer demand for food marketing services and for engineered foods.

To appraise consumer demand and relevance of technological developments to dietary improvement.

To appraise possible future demand for products of technological research.

### *User groups*

Government administrators, food technologists in food industries and universities, food industry planners.

### *Data needs*

As detailed information as respondents can provide on forms and product characteristics of food consumed as well as consumption data consistent with earlier surveys and additional family characteristics and basic meal pattern information.

### *Forms for output*

Articles in government periodicals and professional journals, special reports and bulletins, detailed data tapes with product and family characteristics.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

### C. Consumer education (see also VI and VII A above):

1. Food management behavior in 1977 of families with specified characteristics.
2. Appraisal of variations in food buying practices of families with specified characteristics and of directions of changes.
3. Economies of scale in food buying measured by multivariate analyses.
4. Benchmark data for self-appraisal of food allocations.
5. Appraisal of relative costs of specific resources, such as nutrients, food processing, other food marketing services, home preparation time, used in food consumption subsystem of the family food economies.
6. Relationship of 1977 patterns of eating of families and individuals with selected characteristics to socio-economic factors and to dietary adequacy.
7. Implications of changes in relationships among socioeconomic characteristics, food patterns, and dietary adequacy.
8. Effects of alternative measures of levels of food consumption and nutrient supplies and changes from 1965-66 to 1977 evaluation of needs for consumer education.

To measure factors related to different types of food management behavior in order to identify needs for consumer education and to plan educational programs.

To appraise consumer food buying problems and the priorities for consumer education.

To take into account major factors other than family size in appraising higher food costs of small families.

To answer consumer question: How do other families like us spend their food money?

To provide sound bases for consumer education in food buymanship to maximize consumer satisfaction.

To measure relative importance of socioeconomic factors in variations in eating patterns and of eating patterns to dietary adequacy in order to focus educational efforts on key problems and particular to the content of educational programs.

To contribute to improvements in focus and content of consumer education.

To evaluate the statistical bases and procedures available for measurement of variations and changes in diets in order to improve the rationale for consumer education.

*User groups*

Government administrators in local, state, and federal education; researchers and teachers in consumer education, consumer groups, legislative committees.

*Data needs*

Detailed information on processed forms of foods consumed, more information on family and homemaker characteristics, possibly some data on homemakers' time allocation for food preparation, data on meals eaten by individuals by place and time and items included for several days, possibly indications of consumer knowledge relative food costs.

*Forms of output*

Articles in government periodicals and professional journals, government bulletins at both technical and semipopular levels, detailed data tapes for use by university researchers.

*D. Survey methodology:*

- |  |  |
|--|--|
| 1. Variability of food intakes of major population groups in relation to shorter and longer time periods and appraisal of effects of alternative measures of food consumption. | To appraise the statistical significance of measurements based on one day intakes in comparison with data based on several days' diets. To evaluate relative validity of alternative measures of food consumption. |
| 2. Evaluation of the effects of alternative measures of nutrient supplies and of nutrient standards on relationships of dietary adequacy to socioeconomic factors.             | To appraise the statistical bases for measurements of variations and changes in diets and of factors related to them.  |
| 3. Comparison of levels of food consumption and diets measured by 1977 survey with estimates derived from food disappearance data.   | To evaluate the reliability of alternative measures of food consumption and the statistical bases for analytical work.   |

*User groups*

Statisticians in government agencies, universities, food industries, and market research firms, as well as government and business administrators and researchers.

*Data needs*

Detailed data on consumption, dietary patterns, family characteristics.

*Forms of output*

Articles in government and professional periodicals, statistical bulletin, detailed data tapes.

## EXAMPLES OF TOPICS IN PROBLEM-AREA

## OBJECTIVES

## VIII. Income-related problems:

## A. Measurement of the incidence of poverty (HEW-SSA):

1. Updated estimates of regional and urbanization distribution of the poor.

To provide public and government administrators with reliable information on incidence of poverty.

2. Family and economic characteristics of the elderly poor.

To provide supplementary information for public decision-making on programs for retirement income.

## B. Evaluation of current income-maintenance programs (HEW-SSA, AOA, SRS, AFPE):

1. Dietary adequacy and food program participation of households and individuals participating and not participating in specified programs such as SSA, SSI, AFDC.

To evaluate the impact on current income-maintenance programs on subsistence levels of specified population growth.

2. Evaluation of costs and benefits of alternative programs to assure minimum subsistence levels for specified population groups. To provide government administrators and the Congress with economic appraisals of program alternatives, particularly income-maintenance vs. consumer food subsidies.

#### *User groups*

Statisticians, administrators and professional staffs of government agencies and universities and of private organizations concerned with public welfare of particular population groups.

#### *Data needs*

Supplementary samples of specified groups of households and individuals to obtain detailed information on participation and nonparticipation in Federal and state programs for food subsidies and for income maintenance.

#### *Forms of output*

Administrative reports, articles in government and professional periodical statistical bulletins.

## APPENDIX O

### RECOMMENDATIONS OF THE CONFERENCE TO THE PRESIDENT OF THE UNITED STATES\*

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As a result of its deliberations, the National Nutrition Conference makes the following recommendations to the President. During the sessions of the Conference, a state of Unlimited National Emergency was proclaimed by the President. The Conference feels that this gives added significance to its recommendations, and we pledge our full support to the President in mobilizing our national resources to meet this emergency.

I. The great and sometimes startling advances in our knowledge of nutrition in recent years have made it clear that the food an individual eats fundamentally affects his health, strength, stamina, nervous condition, morale, and mental functioning. It is of paramount importance to the normal growth, development, and health of children. In view of these proven facts, it is vital for the United States to make immediate and full use of the newer knowledge of nutrition in the present National Emergency. To neglect this aspect of defense would be as hazardous as to neglect military preparedness.

II. The newer knowledge of nutrition should be used not only for the benefit of our armed forces, who must of course be adequately fed, but for that of all workers in industries directly and indirectly related to defense, and also for the civilian population as a whole. Wars are won or lost according to the health, courage, and morale of whole populations and their ability to exert themselves to the utmost, and this is particularly true in modern total warfare. The food provided for women and children is as important to the future of the Nation as that provided for defense workers.

III. Recent dietary studies among large groups representative of the people of the United States, clinical studies among smaller groups, and the examination of men called up for military service show clearly that poor diets and malnourishment are widespread in this country. While the conditions revealed offer no ground for alarmist statements, they are serious enough to be a genuine cause of weakness in the present National Emergency and to warrant national attention and concerted action. A widespread disease epidemic would receive such attention immediately. Malnourishment is more insidious and less immediately obvious in its effects, but it is not less harmful when all the results are considered.

IV. Few problems in the field of public health are simple and that of malnourishment is particularly complex. It has not only medical

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\*From the Proceedings of the National Nutrition Conference for Defense, May 26, 27, and 28, 1941. Called by President Franklin D. Roosevelt.

but social, economic, and psychological aspects. To attack it on a national scale will require peculiarly widespread and wholehearted cooperation on the part of all elements in our population. This Conference urges the following lines of attack as particularly important:

A. The use of the allowances of calories, protein, and certain important minerals and vitamins, recommended by the Committee on Food and Nutrition of the National Research Council, both as the general goal for good nutrition in the United States and as a yardstick by which to measure progress toward that goal. It should be clearly recognized that these recommended allowances represent the best knowledge now available, and that they will undoubtedly be modified as more knowledge accumulates.

B. Translation of these allowances, and other similar technical material, into terms of everyday foods and appetizing meals suitable for families and individuals at different economic levels, in such a way that the newer knowledge of nutrition can be applied simply and practically in every home and in accordance with the food preferences of the family.

C. Vigorous and continuous research to add to our present knowledge of the nutritional needs of individuals, the nutritional status of groups in the population, the nutritive content of everyday foods, and the effects of various methods of production, processing, storing, and cooking on their nutritive value.

D. More widespread education of doctors, dentists, teachers, social service workers, public health nurses, and other professional workers in the newer knowledge of nutrition. At present this knowledge, especially in its practical applications, is familiar to far too small a group even in the professional fields.

E. Mobilization of every educational method to spread the newer knowledge of nutrition among laymen by means of the schools, motion pictures, the radio, the public press, home and community demonstrations, and all other suitable means.

F. Mobilization of all neighborhood, community, State and national organizations and services that can contribute in any way to raising the nutritional level of the people of the United States. Many existing organizations are available for this purpose. How they can be mobilized to cooperate most effectively will depend on local situations. State nutrition committees can give especially useful assistance in organizing this effort.

G. Vigorous and continued attack on the fundamental problems of unemployment, insecure employment, and incomes inadequate to maintain an American standard of living. It is common knowledge that malnourishment and ignorance are frequently twins born of the same mother—poverty. The newer knowledge of nutrition should be a powerful stimulus to greater effort to alleviate and eventually eliminate poverty.

H. Full use of any practical devices, such as the Food Stamp Plan, school lunches, and low-cost milk distribution, which will bring nourishing, adequate meals to those who could not otherwise afford them, and at the same time help to distribute food surpluses at a fair return to the farmer.

I. Efforts to improve food distribution, including processing, marketing, packaging, and labeling, to bring about greater real

economies for the consumer. These efforts would include vigorous prosecution of illegal practices under the antitrust laws and the laws relating to unfair trade practices wherever such practices result in unjustifiable increases in food prices.

J. Encouragement in all practical ways of greater production of the foods needed in more abundance in the average American diet. These foods include milk and milk products, eggs, vegetables, fruits, and, in the case of many families, lean meats, and sea food. Much can be accomplished also by making more use of low-cost foods of high nutritive value such as soy-bean flour, peanut flour, and dried skim milk.

K. Encouragement in all practical ways of more production for home use by rural people, especially those at low-income levels. Large numbers of farm families can greatly improve their nutritional status by making more complete use of the resources of their own farms.

L. Improving the nutritive value of certain low-cost staple food products, such as flour and bread, by enrichment with nutritive elements that have been removed from them in modern milling and refining processes. Pending further developments in the milling of grains so as to retain their full, natural, nutritive values, enrichment is an economical way to improve American dietaries almost universally, without interfering with deeply ingrained food habits. The method, however, should be used with discretion and only on the basis of findings of medical and nutritional experts.

V. These broad recommendations are made as the basis for a national nutrition policy and an action program that can reach every community, and if possible every individual, in the present emergency. The Conference also wishes to record its belief that such a policy and program have implications that go beyond the present emergency.

There seems no reason to doubt, on the basis of present evidence, that just as, by the use of modern medical science, we have conquered diseases that took an enormous toll of life in the past, so by the use of the modern knowledge of nutrition we can build a better and a stronger race, with greater average resistance to disease, greater average length of life, and greater average mental powers.

This can be done by the conquest of hunger—not only the obvious hunger man has always known, but the hidden hunger revealed by the modern knowledge of nutrition.

The United States is probably the best fed Nation in the world today, but we cannot afford to judge ourselves by external standards. We should judge ourselves by the standard of our own potentialities—our resources in food, in technical developments, in scientific knowledge. By that standard, we fall far short of our goal.

No nation, certainly no large nation, has ever truly conquered hunger, the oldest enemy of man. Such an aim is not too high, such a goal is not too difficult, for the people of the United States. It is in line with our tradition of pioneering on new frontiers. It is a particularly fitting task for us in this day when democracy should point the way to a new and better civilization for oppressed peoples all over the earth.

## APPENDIX P

### THE WHITE HOUSE

EXECUTIVE ORDER 11788

#### PROVIDING FOR THE ORDERLY TERMINATION OF ECONOMIC STABILIZATION ACTIVITIES

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The authority contained in the Economic Stabilization Act of 1970, as amended, to impose a system of mandatory wage and price controls expired at midnight on April 30, 1974. Executive Order No. 11781 of May 1, 1974, provided for an orderly transition from mandatory controls, for the continuation of enforcement procedures under the Economic Stabilization Act of 1970, as amended, with respect to acts committed prior to May 1, 1974, for the continuation of the Cost of Living Council, and the continuation of monitoring and other functions of the Council for the period May 1, 1974, through June 30, 1974. However, the orderly termination of the Economic Stabilization Program will require several more months of followup activities. The Economic Stabilization Act of 1970, as amended, permits the maintenance of authority to take appropriate action with respect to any action or pending proceedings, civil or criminal, not finally determined on April 30, 1974, or with respect to matters before the Council that relate to wages paid for work performed prior to May 1, 1974, and prices charged prior to May 1, 1974. In order to meet these requirements and to assure the proper disposition of the files, records, data, and other financial and administrative matters relating to the Economic Stabilization Act, I am, by this Order, delegating to the Secretary of the Treasury such Presidential authority as may remain under the Economic Stabilization Act of 1970, as amended, and assigning to him the responsibility for taking such action as may be necessary and appropriate to achieve the limited objectives described above.

Now, therefore, by virtue of the authority vested in me by the Constitution and Statutes of the United States, including the Economic Stabilization Act of 1970 (P.L. 91-379, 84 Stat. 799) as amended, and as President of the United States of America, it is hereby ordered as follows:

SECTION 1. The Cost of Living Council, established by Section 2 of Executive Order No. 11615 of August 15, 1971, and continued by Executive Order No. 11627 of October 15, 1971, Executive Order No. 11640 of January 26, 1972, Executive Order No. 11695 of January 11, 1973, Executive Order No. 11730 of July 18, 1973, and Executive Order No. 11781 of May 1, 1974, is hereby abolished.

SEC. 2. All the powers and duties conferred upon the President by the Economic Stabilization Act of 1970, as amended, are hereby

delegated to the Secretary of the Treasury who shall exercise them so as to provide for the orderly termination of the Economic Stabilization Program. That authority shall be exercised only to the extent necessary to provide for the orderly termination of the Economic Stabilization Program, including the taking of appropriate action with respect to any action or pending proceedings, civil or criminal, not finally determined on April 30, 1974, or with respect to any act committed prior to May 1, 1974, and as hereinafter provided. The Secretary of the Treasury is authorized to redelegate such powers and duties to other officials or agencies of the United States, as may be appropriate.

SEC. 3. The Secretary of the Treasury or his designee shall provide for the continuation of any action or pending proceedings, civil or criminal, not finally determined prior to May 1, 1974, as appropriate. He shall continue to receive reports and review pay adjustments with respect to work performed prior to May 1, 1974, and price adjustments with respect to prices charged prior to May 1, 1974, and take appropriate remedial action whenever he finds such adjustments were in violation of applicable Economic Stabilization Regulations.

SEC. 4. Nothing in this Order shall be construed as authorizing the imposition or reimposition of any mandatory economic controls with respect to prices, rents, wages, salaries, corporate dividends, interest rates, or any similar transfer, other than on the basis of the authority provided in Sections 2 and 3 of this Order with respect to enforcement activity related to the period prior to May 1, 1974.

SEC. 5(a). The Secretary of the Treasury or his designee is authorized:

(1) To employ such personnel as he deems necessary to perform the functions conferred upon him by this Order, including personnel previously employed by the Cost of Living Council.

(2) To appoint, pursuant to Section 212(b) of the Economic Stabilization Act of 1970, as amended, not more than one officer who shall be compensated at the rate prescribed for level V of the Executive Schedule (5 U.S.C. 5316) for the purposes of carrying out functions under this Order through December 31, 1974.

(3) To place no more than 3 positions in GS-16, 17, and 18, pursuant to Section 212(d) of the Economic Stabilization Act of 1970, as amended, for purposes of carrying out this Order through December 31, 1974.

(4) To receive from the Cost of Living Council and be the custodian of all the records and data not otherwise properly disposed of by June 30, 1974, including the records and data of all Advisory Committees to the Council.

(5) To receive from the Cost of Living Council custody of and accountability for property (real and personal) and equipment not otherwise properly disposed of by June 30, 1974.

(b) The Secretary of the Treasury shall—

(1) provide for the compilation of a history of the Economic Stabilization Program by December 31, 1974; and

(2) provide for the appropriate disposition of all property (real and personal), records, data, and personnel transferred hereunder or relating to the activities conferred upon him by this Order.

SEC. 6. Any officer or employee who was serving in the Economic Stabilization Program, on or before June 30, 1974, and who while so serving was guaranteed reemployment rights to his former agency by virtue of such service, shall retain such rights through December 31, 1974, if employed by the Secretary of the Treasury or his designee to perform functions under this Order, without a break in service of one day or more.

SEC. 7. The following committees and boards are abolished:

(1) The Cost of Living Council Committee on Health established by Section 6 of Executive Order No. 11695 of January 11, 1973, and continued through June 30, 1974, by Executive Order No. 11781 of May 1, 1974.

(2) The Cost of Living Council Committee on Food established by Section 7 of Executive Order No. 11695 of January 11, 1973, and continued through June 30, 1974, by Executive Order No. 11781 of May 1, 1974.

(3) The Labor-Management Advisory Committee established by Section 8 of Executive Order No. 11695 of January 11, 1973, and continued through June 30, 1974, by Executive Order No. 11781 of May 1, 1974.

(4) The Construction Industry Stabilization Committee, established by Executive Order No. 11588 of March 29, 1971, and continued by Executive Order No. 11695 of January 11, 1973, and Executive Order No. 11781 of May 1, 1974.

SEC. 8. The Secretary of the Treasury, or his designee, may, for the purposes of carrying out this Order, continue any advisory committees previously established by the Cost of Living Council and not abolished by the Council prior to the effective date of this Order. He shall make appropriate provisions for abolishing, on or before December 31, 1974, all Council Advisory committees so continued.

SEC. 9. This Order shall not be deemed to affect any authority (1) exercised by the Federal Energy Office with respect to pricing and allocation of crude oil, residual fuel oil, and refined petroleum products (as defined in the Emergency Petroleum Allocation Act of 1973), pursuant to the Economic Stabilization Act of 1970, as amended, the Emergency Petroleum Allocation Act of 1973, Executive Order No. 11748 of December 4, 1973, or Cost of Living Council Order No. 47, as amended, or (2) any comparable authority vested in, or delegated to, the Administrator of the Federal Energy Administration.

SEC. 10. Executive Order No. 11588 of March 29, 1971, Executive Order No. 11627 of October 15, 1971, Executive Order No. 11640 of January 26, 1972, Executive Order No. 11695 of January 11, 1973, Executive Order No. 11723 of June 13, 1973, Executive Order No. 11730 of July 18, 1973, and Executive Order No. 11781 of May 1, 1974, are revoked.

SEC. 11. Sections 1 through 10 of this Order shall be effective as of July 1, 1974.

SEC. 12(a). There is hereby established the President's Committee on Food, which shall be composed of the Counsellor to the President for Economic Policy, who shall be its Chairman, the Secretary of State, the Secretary of the Treasury, the Secretary of Agriculture, the Director of the Office of Management and Budget, the Chairman of the Council of Economic Advisers, the Executive Director of the

Council on International Economic Policy, and such other members as the President may, from time to time, designate.

(b) The President's Committee on Food shall review Government activities significantly affecting food costs and prices and provide coordination for the Nation's policy relating to domestic and international food supplies and relating to food costs and prices.

(c) The President's Committee on Food shall terminate on December 31, 1974.

RICHARD NIXON.

APPENDIX Q  
THE WHITE HOUSE  
WASHINGTON

JUNE 21, 1974.

Memorandum for:

Secretary of State Henry A. Kissinger.

Secretary of Treasury William Simon.

Secretary of Agriculture Earl L. Butz.

Director of OMB Roy L. Ash.

Chairman of the Council of Economic Advisers Herbert Stein.

Executive Director of CIEP Peter Flanigan.

Subject: Committee on Food.

Since January 1973 the Food Committee of the Cost of Living Council has been reviewing all government policy decisions which have a significant impact on food supplies, production, and prices. It has been decided that the scope and responsibility of this Committee should continue after June 30, 1974, in the form of a Cabinet Committee on Food consisting of the above-named individuals.

This Committee was formally established in Executive Order 11788 signed by the President on June 18, 1974. The Committee, which I shall chair, will review government activities significantly affecting food costs and prices and provide coordination for the Nation's policy relating to domestic and international food supplies and relating to food costs and prices.

In addition to a review and clearance procedure of significant agricultural decisions, a bi-weekly report to the President will be sent by Gary Seevers of CEA through me. This report will cover the current food price situation and outlook, progress on government actions designed to expand supplies and moderate food price increases, and ideas for new government programs in this area.

A Deputies group to the Food Committee will meet bi-weekly for the purpose of preparing the report to the President as well as to review, analyze and decide those domestic and international food policy issues which are not reviewed primarily through the normal Office of Management and Budget process and which do not require the direct participation of the members of the Food Committee. It is critical that issues relating to export and import policy, for example, be reviewed by the Deputies Group prior to final decisions which are made and announced to the press, Congress or the public.

The Food Committee itself will meet only when issues cannot be resolved at the Deputies group level. The individuals who should be designated to participate in the Deputies Group are: Gary Seevers (Chairman), Frank Zarb, Clayton Yeutter, Gerald Parsky, Jules Katz, and the Deputy Director of CIEP.

It is essential that the members of the Food Committee support this effort by impressing on their deputies the priority of the reports

to the President, the importance of making staff time available to carry out the substantive analysis required for its success, and to participate in this inter-agency effort to coordinate government decision making and moderate food price inflation.

I have asked Gary Seevers to provide the first report for my signature by June 28.

KENNETH RUSH,  
*Counsellor to the President  
for Economic Policy.*

COUNCIL OF ECONOMIC ADVISERS,  
*Washington, June 21, 1974.*

Memorandum for: Gerald Parsky; Clayton Yeutter; Frank Zarb;  
Jules Katz; Deputy Director of CIEP.  
Subject: Committee on Food.

As explained in the attached memorandum from Counsellor Rush, a Committee on Food has been formally established by executive order. The Deputies Group, of which you are a member, will have its first biweekly meeting in my office at 10:00 a.m., Wednesday, June 26.

An agenda is attached for your information. Please note the agencies designated responsibility for agenda items.

Also to be discussed is the first biweekly report to the President due on June 28. In case you have not been receiving these reports, attached is the latest one prepared by the Cost of Living Council.

I am pleased to report that Ken Fedor will be joining CEA's staff for the summer and will work with the Deputies Group.

GARY L. SEEVERS,  
*Chairman, Deputies Group  
Committee on Food.*

Attachments.

# COMMITTEE ON FOOD

## DEPUTIES GROUP

10:00 a.m. Wednesday, June 26, 1974

### Agenda

- |  |           |
|--|-----------|
| I. Report on Meat Problem.....                     | USDA      |
| A. Status of Legislation                           |           |
| B. Price Quantity Relationships and Outlook        |           |
| II. Current Crop Prospects.....                    | USDA/CIEP |
| III. Wheat Import Quota, Cotton Import Quotas..... | CIEP      |
| IV. Food Price Forecasts.....                      | CEA       |
| V. Fertilizer Issues.....                          | CEA/USDA  |

## APPENDIX R

### THE WHITE HOUSE

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#### FACT SHEET

##### AGRICULTURAL POLICY-MAKING REORGANIZATION

The President has announced a reorganization of the Administration's agricultural policy-making machinery.

A new Agricultural Policy Committee is being formed with Secretary Butz as Chairman. The Committee will include:

- Secretary of Agriculture—Chairman
- Secretary of State
- Secretary of the Treasury
- Secretary of Commerce
- Assistant to the President for Economic Affairs
- Assistant to the President for Domestic Affairs
- Chairman of the Council of Economic Advisers
- Assistant to the President for National Security Affairs
- Director of the Office of Management and Budget
- Special Assistant to the President for Consumer Affairs
- Executive Director of the Council on International Economic Policy

This new Committee is being formed to consolidate agricultural policy making into one group which will report directly to the President and will advise him on the formulation, coordination and implementation of all agricultural policy. The scope of the Committee will include both domestic and international issues.

The new Committee replaces the International Food Review Group, chaired by the Department of State, and the EPB/NSC Food Committee, co-chaired by the Departments of State and the Treasury.

The EPB/NSC Food Committee was created on September 9, 1975, to develop negotiating strategy for American grain sales to the Soviet Union and to monitor those negotiations. This Committee has been chaired jointly by the Secretary of State and the Secretary of the Treasury. Other members include:

- Secretary of Agriculture
- Secretary of Labor
- Secretary of Commerce
- Director of the Office of Management and Budget
- Chairman of the Council of Economic Advisers
- Executive Director of the Council on International Economic Policy
- Assistant to the President for Economic Affairs
- Assistant to the President for National Security Affairs

The International Food Review Group was established on November 12, 1974, to coordinate the follow-up to the World Food Conference. The IFRG has been chaired by the Secretary of State. Other members include:

- Secretary of the Treasury
- Secretary of Agriculture
- Deputy Secretary of State
- Assistant to the President for Economic Affairs
- Chairman of the Council of Economic Advisers
- Director of the Office of Management and Budget
- Executive Director of the Council on International Economic Policy
- Special Representative for Trade Negotiations
- Assistant to the President for National Security Affairs

The Food Deputies Group, which currently provides staff level assistance to the Economic Policy Board in agricultural policy matters, will become the Agricultural Policy Working Group. This Working Group will provide the Agricultural Policy Committee with staff assistance by monitoring agricultural developments and preparing issue papers and other analyses.

The Food Deputies Group was created to monitor agricultural developments and to prepare materials on selected issues being considered by the Economic Policy Board. This group is chaired by a member of the Council of Economic Advisers and includes representatives of the:

- Department of Agriculture
- Department of the Treasury
- Department of State
- Department of Commerce
- Office of Management and Budget
- Council on International Economic Policy
- Domestic Council
- National Security Council
- Special Representative for Trade Negotiations
- Council on Wage and Price Stability

## APPENDIX S

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,  
Washington, D.C., June 20, 1972.

Note to Dr. Lynn, Dr. Marland and Mr. Kurzman

Subject: Attached *New York Times* Article on Nutritional Illiteracy.

The Secretary has seen the attached *New York Times* article and has asked: "Is this something we should consider?"

P should provide a response to the Secretary's query by June 26. This response should be coordinated with OE and L.

Many thanks.

T. P. REUTERSHAN,  
Assistant Executive Secretary,  
(Health and Consumers Affairs).

Attachment.

[From the New York Times, June 14, 1972]

### NUTRITIONAL ILLITERACY

(By Henry J. Heinz 2d)

We are a nation of nutritional illiterates. Despite a wealth of scientific knowledge of nutrition, too many of us do not know what a balanced diet is, and are ignorant of the essential nutrients we need and the foods that contain them. We have an abundant food supply, yet our eating habits are deteriorating. And it is not just the poor who are affected, though lower-income families undoubtedly fare less well nutritionally than the average.

The U.S. Department of Agriculture reports that the percentage of households that met or exceeded the department's definition of a good diet dropped from 60 to 50 percent from 1955 to 1965. Nine percent of families with incomes over \$10,000 had diets rated poor. The deficiencies broadened over the decade due to decreased use of milk, milk products, vegetables and fruits, and to an increase in snacking. A "ten-state survey" recently completed by the U.S. Public Health Service shows that malnutrition is spread widely across the United States and that anemia due to iron deficiency is a definite public health problem, especially among women.

Malnutrition—and I include overeating as well as insufficient food—is insidious. Its effects are often not immediately apparent. Obesity, for example, constitutes a definite risk in cardiovascular and other metabolic diseases and reflects long-term poor eating habits.

In the case of children and infants, food deficiencies are particularly serious. Recent studies sponsored by The Nutrition Foundation, which has pioneered nutrition research for 30 years, indicate that malnutrition in infants may cause permanent mental and physical retardation.

Looking back, we see that the United States suffered from endemic malnutrition as late as 1940—widespread pellagra, rickets, goiter.

We made great progress from the mid-forties to the mid-fifties. By the nineteen-sixties, however, our progress had not only halted but we began to slip backward.

Our problem today is primarily one of ignorance compounded by a confusing array of unscientific books and articles, some very well publicized, giving poor nutritional advice. Food faddism is becoming a national problem. Advocates of everything from dandelion coffee, unpasteurized milk and organic gardening to the Zen macrobiotic diet are persuading thousands to adopt foolish and costly eating habits.

Many followers of the food faddists feel they have been misled by the advertising claims of food and beverage firms. At least their efforts to change their eating habits indicate that they want to improve their food intake, but they do not know or understand modern food science and technology and therefore, distrust processing and modern agricultural methods. Unfortunately, in their choice of natural or so-called organic foods, they often display alarming and self-damaging ignorance of nutrition. We have extensive knowledge in nutrition today, but, unfortunately, the faddists and their converts are not benefiting from it.

Changing life styles also contribute to our worsening eating habits. Many families no longer eat together. The housewife loses her influence and all family members suffer. Individuals who live alone or prepare their own meals often subsist on a series of unplanned, unbalanced meals or snacks.

For those living in poverty more adequate Federal food programs must be accompanied by meaningful education. For the majority, nutrition education is sorely needed, but they are not getting it today. There are, to be sure, many programs on nutrition education in effect in the United States, but they are too dispersed: the United States Department of Agriculture has thousands of "nutrition aides" who give basic nutritional advice to mothers; it prints and distributes literature on the subject; a few school systems and universities provide some training in nutrition. But most do nothing. And nowhere, to my knowledge, is there a coordinated approach to teaching the subject of nutrition.

We need nutrition education programs at the state and local levels aimed especially at children, teachers in service and in training, young and expectant mothers, and health personnel at all levels.

To implement such programs, state laws requiring the inclusion of nutrition in the curricula of elementary and secondary schools and in teacher training need to be passed and effectively implemented; better teaching materials have to be developed and, as a supporting activity, television and radio must be used imaginatively.

The entire effort must be tailored to our changing way of life. If some people prefer to subsist on a combination of snacks and meals taken at odd hours, that is their choice, but they can get a nutritional balance in their food, as those who eat the traditional three square meals a day, if they know what they need, choose wisely and supplement their snacks with milk, fruits and vegetables.

Nutrition education must become a priority concern of state and local governments and all schools. The food and beverage industries should support this effort as well as follow policies of scrupulous accuracy in advertising and labeling. In addition, they can contribute to better nutrition by following sound principles of nutrition in the formulation of improved foods.

## APPENDIX T

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,  
OFFICE OF THE SECRETARY,  
*July 14, 1972.*

Memorandum.

To: The Secretary through OS/ES—

From: Assistant Secretary for Planning and Evaluation

Subject: New York Times Article on Nutritional Illiteracy—Information Memorandum.

In accordance with your request for the comments of P, OE, and L on the subject article by Henry J. Heinz, there are attached the following: a memorandum from Elsa Schneider of OE to me (Tab B); and a memorandum from Judith Pitney to Mr. Kurzman, which Mr. Kurzman has cleared (Tab C).<sup>1</sup>

In addition, P has the following comment. From our inquiries in responding to this request and from past experience with materials on nutrition, we are impressed with the need for better coordination of the range of nutritional activities now being conducted within the Department. The Center for Disease Control, Indian Health Service, Administration on Aging, Office of Education, Maternal and Child Health Service, Food and Drug Administration, and the Office of Child Development are among the agencies within the Department with responsibilities for aspects of nutrition programs. Although some of these agencies may relate to others on an informal basis, there is no formal mechanism for *all* the concerned agencies to meet together. An intra-Departmental committee on an ongoing basis is very much needed if the Department is to cope effectively with the increasing range of problems in the nutritional field, as touched on in Mr. Heinz' article.

Such a coordinating committee has been recommended by a group working on a nutrition strategy for the Department in response to a policy question identified during the FY 1973 planning process.

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<sup>1</sup> Tab B and C not included.

LAURENCE E. LYNN, Jr.

## APPENDIX U

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,  
OFFICE OF THE SECRETARY,  
Washington, D.C., July 31, 1972.

Note to Dr. Laurence E. Lynn, Jr.

Subject: Nutritional Illiteracy.

The Secretary has seen your July 14 Information Memorandum and has noted his agreement with your statement concerning the need for better intra and interdepartmental coordination of nutrition education activities.

He has also noted "Let's do it" with regard to the suggestion that a coordinating committee be established. Please coordinate with the Department Committee Management Officer on steps necessary to establishment of this committee. Consideration should be given to creation of an *interdepartmental* committee, in light of the need for better coordination with other Federal Departments and Agencies.

Please forward to the Secretary by August 15 a progress report on establishment of this committee.

Many thanks.

T. P. REUTERSHAN,  
*Assistant Executive Secretary*  
(*Health and Consumer Affairs*).

## APPENDIX V

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,  
OFFICE OF THE SECRETARY,  
*September 22, 1972.*

Memorandum.

To: The Secretary through: OS/ES —

From: Assistant Secretary for Planning and Evaluation.

Subject: Coordination of Nutrition Activities—Action Memorandum.

### I. PURPOSE

To lay out recommendations for the implementation of a nutrition coordination focus within the Office of the Secretary.

### II. BACKGROUND

On July 31 you directed P to prepare recommendations for the establishment of a coordinating committee on nutrition (Tab B). Since then, we have reviewed the Department's activities in nutrition and have found that its programs are widely spread throughout the Department and vary significantly in their focus.

There are four categories of nutrition programs in HEW:

- programs which provide meals for a selected client group,
- programs which are designed to teach people how to eat the right foods,
- personnel training programs, and
- research, both on food standards and on the relationship between nutrition and specific health problems.

Listed below are the agencies with programs that are known to have activities in these categories:

#### Food Provision:

- OCD
- AOA
- CSA
- Indian Health Service

#### Education:

- OCD
- AOA
- MCHS
- Indian Health Service
- Community Health Service
- CDC
- NIMH
- OE

#### Training:

- OE
- MCHS

#### Research:

- MCHS
- CDC
- NIMH
- FDA
- NIH

Approximately \$219 million is budgeted for these activities in FY 1973. An inventory of Federal nutrition activities, including FY 1973 funding requests, is attached at Tab C.

### III. DISCUSSION

The list above contains only those programs which deal directly with nutrition, although it is generally a secondary aspect of each activity. Most of these efforts are preventive in nature, either providing balanced diets for certain client groups, or education to help people to feed themselves adequately. Secondary effects of malnutrition, such as increased susceptibility to infection and impaired learning ability, may account for a sizeable, but currently unknown, portion of other HEW program expenditures. Partly because of the difficulty of diagnosing it, little effort goes into the identification and treatment of subclinical malnutrition. With the notable exception of Maternal and Infant Care projects, which monitor the nutritional status of their patients, treatment in the health system tends to focus on acute care, and in the educational system on providing educational remedies for learning problems.

Wide variation in individual needs for specific nutrients, as well as the difficulty of isolating effects of poor nutrition from other medical and psychological difficulties, have combined to discourage a direct attack on the problem. The establishment of a viable coordinating focus in the Department for nutrition policy, program, and research is a step toward a concerted attack on nutritional problems.

### IV. RECOMMENDATIONS

Although there are many psychological, social, and economic variables which interact with nutritional status, the issue is fundamentally one of health. Therefore, I recommend that H be given lead responsibility for the coordination of nutrition activities.

H should set up a nutrition coordinating committee within its office and assume the responsibility for chairing it. All interested agencies listed previously, and appropriate OS offices should participate.

The following activities are suggested for the committee to undertake:

- Make Department-wide policy recommendations to the Secretary regarding nutrition.

- Make recommendations regarding the substance and emphasis of specific nutrition programs and research projects, and initiate recommendations to fill gaps in Department activities relating to nutrition.

- Coordinate activities which involve several agencies, establish uniform nutritional standards wherever necessary, and provide guidance for long term planning.

- Coordinate the research segment of the Department with the program segment so that relevant research findings are utilized in program implementation and that research is done in areas where the program designers have a need for knowledge.

Work toward integration of nutrition services in preventative and health maintenance programs.

Review proposed legislation relating to the nutrition activities of the Department.

Serve as liaison with other Departments and agencies who have nutrition activities, provide HEW representation on Interdepartmental nutrition groups, and encourage Interdepartmental cooperation in the implementation of any overlapping or supplementary activities.

After consideration of these and other possible activities, H shall submit a report on the establishment of the committee, including the functions, by November 30, 1972.

Decision:

Approved \_\_\_\_\_ Disapproved \_\_\_\_\_ Date \_\_\_\_\_

Reassign to the Interagency committee responsibility for providing DHEW representation on all Interdepartmental nutrition groups.

Decision:

Approved \_\_\_\_\_ Disapproved \_\_\_\_\_ Date \_\_\_\_\_

I recommend that you sign the attached memo to the Assistant Secretaries and Agency Heads (Tab A) assigning lead responsibility for nutrition to H and describing the tasks involved.

LAURENCE E. LYNN, JR.

Enclosures.

## APPENDIX W

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,  
OFFICE OF THE SECRETARY,  
*October 24, 1972.*

Memorandum.

To: Assistant Secretaries; Agency Heads.

From: The Secretary.

Subject: Coordination of Departmental Nutrition Activities.

A number of disparate programs and research efforts which relate to nutrition are being pursued currently in the Department. Nutrition is a supplemental component, in many cases, to other widely varying program goals.

To provide a central focus for nutrition in the Department, I am assigning H lead responsibility in the area. H shall be responsible for convening, chairing, and providing staff support for a Departmental Nutrition Coordinating Committee, which includes all interested agencies and offices within DHEW. H, with the Committee members, shall develop by November 30 a proposed charter for the Committee which assures genuine research, program, and policy coordination. This Committee, with its base in H, should be considered the central DHEW focus for nutritional policy. All nutrition-oriented arrangements with other Departments or agencies shall be reviewed by H, and DHEW representatives to Interagency groups shall be included among the Committee's members.

Despite the difficulty of diagnosing and treating subclinical malnutrition, I have no doubt that more intense concentration on the problem could markedly improve our effectiveness in eliminating malnutrition.

Please designate a member of your staff to serve as your representative to the Committee, and notify Dr. DuVal's office of your selection as soon as possible.

## APPENDIX X

### DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE CHARTER

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#### NUTRITION COORDINATING COMMITTEE OF DHEW

##### PURPOSE

Activities in support of the improvement of the nutritional status of the American people are carried out throughout DHEW, thus necessitating a Departmental coordinating committee. The purpose of the Nutrition Coordinating Committee of DHEW is to provide a central focus for nutrition in the Department and to promote research, policy, and program coordination.

##### AUTHORITY

The Committee is established under authorization of a memorandum dated October 24, 1972 from the Secretary to Assistant Secretaries and Agency Heads entitled, "Coordination of Departmental Nutrition Activities."

##### FUNCTION

The Committee will advise and make recommendations to the Assistant Secretary for Health in areas relating to nutrition. Areas of concern to the Committee will include:

- (1) The development of Department-wide policies relating to nutrition.
- (2) The recognition and incorporation of nutrition services in the development of Departmental programs.
- (3) The coordination of nutrition activities among agencies in the Department and the identification of gaps and overlaps relating to nutrition activities.
- (4) The development of criteria for and review of agency nutrition program guidelines.
- (5) The effective inter-relationship of research findings and program implementation.
- (6) The review of proposed legislation and regulations where Departmental policies may be at stake.
- (7) The development of liaison with other Departments and agencies who have nutrition activities and the encouragement of inter-Departmental cooperation.

##### STRUCTURE

Consists of a chairperson to be appointed by the Assistant Secretary for Health, and representatives of the following offices and agencies in DHEW:

- Office of Assistant Secretary for Health
- Office of Assistant Secretary for Administration and Management

Office of Assistant Secretary Comptroller  
 Office of Assistant Secretary for Legislation  
 Office of Assistant Secretary for Planning and Evaluation  
 Office of Assistant Secretary for Community and Field Services  
 Office of Assistant Secretary for Public Affairs  
 Office of General Counsel  
 Office of Child Development  
 Office for Civil Rights  
 Food and Drug Administration  
 Health Services and Mental Health Administration  
 National Institutes of Health  
 Social and Rehabilitation Service  
 Social Security Administration  
 Office of Education and National Institute of Education  
 Management and staff services will be provided by the Director,  
 Center for Disease Control.

#### MEETINGS

Meetings will be held bi-monthly or at the call of the chairman. Minutes of meetings shall contain, as a minimum, a record of persons present; a description of matters discussed, recommendations made, and reasons therefor; and copies of all reports approved and issued.

#### REPORTS

A report will be prepared not later than June 30 of each year which shall contain, as a minimum, the dates and places of meetings, and a summary of the committee's activities and recommendations during the fiscal year. The report will be submitted to the official advised by the committee and a copy shall be provided to the Department Committee Management Officer.

#### DURATION

The Nutrition Coordinating Committee of DHEW will terminate two years from the date of its establishment unless extension beyond that date is requested and approved.

#### FORMAL DETERMINATION

I hereby determine that the formation of the Nutrition Coordinating Committee of DHEW is in the public interest in connection with the performance of duties imposed on the Department by law, and that such duties can best be performed through the advice and counsel of such a group.

CHARLES C. EDWARDS,  
*Assistant Secretary for Health.*

April 4, 1973.

## APPENDIX Y

### ANNUAL PROGRESS REPORT

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#### NUTRITION COORDINATING COMMITTEE OF DHEW—1974

##### INTRODUCTION

The Nutrition Coordinating Committee of DHEW was established in October 1972 "to provide a central focus for nutrition in the Department and to promote research, policy and program coordination." The following progress report describes the Nutrition Coordinating Committee's meetings, activities and recommendations for FY 1974 and is submitted to the Assistant Secretary for Health as required by the Nutrition Coordinating Committee Charter.

##### MEETINGS

The Nutrition Coordinating Committee met bi-monthly at DHEW North Building on the following dates: July 20, 1973; September 21, 1973; November 16, 1973; January 18, 1974; March 15, 1974; May 24, 1974.

##### LEADERSHIP OF COMMITTEE

Reorganization and personnel changes within the Department necessitated changes in committee chairmanship as well as representatives. Dr. Robert Laur, HSMHA, resigned as chairman in July 1973. Dr. Ogden Johnson, FDA, was appointed as his successor on July 20, 1973. He served until March 1, 1974, when he resigned from government service. Effective March 17, Dr. Myron Mehlman, OASH, was appointed chairman and continues to serve in that capacity. A current list of Nutrition Coordinating Committee members is attached (TAB A). Among significant developments was the designation of nutrition consultants from two Regional offices of DHEW by the Regional Health Administrators as Regional representatives to the Nutrition Coordinating Committee.

##### SUMMARY OF ACTIVITIES

While Nutrition Coordinating Committee members continued to perform each of the seven activities outlined in the approved Plan of Work (TAB B)<sup>1</sup>, major emphasis was given to the following three activities during FY 1974.

*(1) Development of a proposed departmentwide position on nutrition*

A draft position was prepared and circulated to members of the Nutrition Coordinating Committee for their comments. After revision, it was then submitted to the Office of Program Operations for review and approval. Office of Program Operations believes extensive revisions are needed, and work on such revisions is proceeding. The

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<sup>1</sup> Tab B not included.

document will be submitted for comment to all affected agencies before final submission to the Department authorities for approval.

(2) *Preparation of recommendations for the effective utilization of research findings in program activities as well as to identify research needs*

A report relative to biomedical research needs as they would apply to NIH interests is being developed and will need an additional four (4) months' work. The following actions are being taken to prepare an informational base for Nutrition Coordinating Committee recommendations:

(a) Compilation of information regarding manpower years and dollars that were spent on nutrition research in FY 1974 in DHEW agencies

(b) Identification of NIH manpower years and dollars spent in FY 1974 for research in the areas of diabetes, obesity, cardiovascular disease, nutritional deficiencies and heavy metals and other related areas

(c) Initiation of a similar inquiry related to specific health-related disease entities in all other DHEW agencies.

(3) *Review of proposed legislation and regulations where departmental policies may be at stake*

Since National Health Insurance was a major legislative thrust, staff from L were invited to meet with the Nutrition Coordinating Committee to discuss the administration's proposals. Inclusion of nutrition services as an integral part of NHI was considered worthy of serious examination. Thus a subcommittee was appointed to review the legislation in detail and make specific recommendations relating to nutrition in national health insurance plans.

(4) *Additional activities*

In addition to the above major activities related to the Program of Work, the following were carried on: an initial draft of an outline to use in developing guidelines for the establishment and conduct of agency nutrition programs was prepared; a list of agencies and departments with nutrition activities and with whom the Nutrition Coordinating Committee members have liaison was compiled; and assistance was provided to the Senate Select Committee on Nutrition and Human Needs relative to the National Nutrition Policy Conference held in June.

The Committee is serving increasingly as a focal point in the Department where problems and requests requiring an integrated and comprehensive Department-wide response can be handled, e.g., Title VII of the Older American Act was reviewed by the Administration on Aging representative and linkages with other department health and nutrition activities were explored with Nutrition Coordinating Committee members; current plans and progress for the 1975-76 USDA Surveys of Household and Individual Food Consumption were presented, and a composite Department response prepared and forwarded to the U.S. Department of Agriculture.

#### RECOMMENDATIONS

1. That the Nutrition Coordinating Committee be extended for an additional two years—to April 4, 1977.

Justification: During its initial two years, the Nutrition Coordinat-

ing Committee's major tasks related to organization and development of a Program of Work. Several important activities to implement the Program of Work are underway, e.g., final preparation of a DHEW Nutrition Policy, preparation of guidelines for establishment and conduct of agency programs, etc. These policies and procedures are urgently needed by DHEW agencies, thus provision should be made for their completion. Furthermore, it has taken time to develop recognition of the Nutrition Coordinating Committee as a focal point for nutrition. Requests for information and advice related to nutrition requiring a coordinated response from DHEW will in all likelihood increase.

2. Level of support in terms of dollars and manpower be examined in light of demands placed on this committee.

Justification: Since committee staff and members have full-time duties inherent in their positions within the Department, the time available for committee activities has been limited. Implementation of the Work Plan will require more staff time and resources.

3. That the Assistant Secretary for Health take measures to achieve among agency heads and Office of the Secretary staff greater recognition and support of the role of the Nutrition Coordinating Committee as a focal point for nutrition in the Department.

Justification: With frequent changes in agency personnel and pressing demands on key staff, there is a continuing need to inform them about the Nutrition Coordinating Committee and its role.

## APPENDIX Z

[DRAFT]

### A STATEMENT OF NUTRITION POLICY FOR THE DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

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The role of nutrition in health and its relationship to the economic and social components of everyday life is increasingly being recognized as one of major importance to individual and national development. The Department of Health, Education and Welfare—whose basic mission is to help everyone achieve his or her optimum potential and to eradicate the demeaning conditions that undermine dignity and retard growth and development—must realize that the actions it takes in most of its areas of responsibility will impact on the nutritional well-being of the Nation's citizens. Nutrition should be included in the program areas of health, education, social services, and income maintenance and considered in the development of national policies and programs, proposals for legislative measures, and use of Federal resources.

In order to fulfill its mission in terms of nutrition, the Department must provide national direction for both public and private programs seeking to bring optimal nutrition to all citizens of our country. It should become an advocate for those nutritional efforts which are shown to be needed; be prepared to undertake program support, and intervene in crisis situations resulting in inadequate nutrition, or even malnutrition.

#### WHAT IS NUTRITION?

Nutrition is one environmental factor directly under the control of man which can be used effectively in the maintenance of health and in the prevention of disease and disability. However, the practical aspect of nutrition—the consumption of an optimal diet—directs attention to what nutrition really is.

Nutrition can be defined as a person's ability to develop physically and mentally at an optimal rate, to maintain body tissues, to carry out work performance to an optimum degree, and to reproduce normally, through the acquisition and consumption of food in needed amounts and of an optimal quality. To achieve adequate nutrition requires (1) availability of a safe and adequate food supply, (2) accessibility to food in terms of markets, income, etc., (3) understanding by the consumer as to the selection and preparation of food for good nutrition, and (4) absence or amelioration of a health problem—physical, mental or medical—which impairs the person's access to an adequate diet.

This definition serves as the basis for the following nutrition policy; namely that:

**ALL CITIZENS SHALL HAVE ACCESS TO AN ADEQUATE AND SAFE SUPPLY OF FOOD AND ABILITY TO IDENTIFY, SELECT, AND PREPARE AN OPTIMAL DIET, IRRESPECTIVE OF SOCIAL OR ECONOMIC STATUS**

Specific principles related to nutrition and food comprise the practical aspects of this nutrition policy—a policy that must serve to guide those in all HEW-administered programs that affect the nutritional health of the people served by those programs—and these are discussed below.

#### A. FOOD SUPPLY

The provision of an adequate and safe supply of food, accessible to all persons is essential to achieving adequate nutrition across this nation. The production and processing of food must be given the highest priority by the Government as well as by the private sector. Those agencies responsible for food must constantly review the supply of food, its safety, and its cost, to assure that food adequate in quality and quantity is available to meet nutritional needs.

The Department's role in assuring adequate food involves the provision of financial assistance or in some cases, food resources. Regardless of form, such programs must be operated in a manner so as to provide accessibility to adequate diets, as well as to the other basic essentials of life. The Department should assist in eliminating inequities which penalize many families in achieving good nutrition, such as recognizing the higher cost of living in some geographic areas and the variations often found in wages, costs of food and quality and quantity of food markets. Food programs if necessary should complement rather than replace family efforts and should be planned to benefit members of the family throughout their life cycle.

#### B. PROVISION AND DELIVERY OF NUTRITION SERVICES

The nutritional needs of people cannot be met in isolation from their other basic needs. Thus, the provision and delivery of nutrition services must be considered in relation to each of the major HEW programs that affect the total well-being of people (i.e., health, education, social services, and income maintenance).

Department policy should be to evaluate each program in order to determine the need for nutrition services and the adequacy of resources available to meet the need. Program planning in each program area should include attention to the identification of problems and needs in nutrition, the development of appropriation action steps to include nutrition service as an integral program component, provision of necessary resources and evaluation of program effectiveness and efficiency.

A comprehensive planning approach to nutrition services should be used by the Department because of the interdependency of the private and public sectors, the involvement of multiple Federal agencies in the provision and delivery of nutrition services, and the need to seek consumer input.

Since standards, codes, regulations, guidelines, etc., set forth or establish the base of program operations, it is essential that they not only reflect a concern for nutrition and demonstrate a consistency and coordinated approach among Department programs, but between these programs and those of other public and private agencies. Essentially this means that the Department must assume a role, and support necessary changes in prevailing regulations and, as required, seek new or amended legislation.

Funds should be made available to State and local communities to assist them in the development, expansion, and improvement of nutrition services needed for a healthy population, including the development of effective delivery mechanisms for such services. Provision should be made for the adequate administration of these programs and for personnel and other resources required to deliver such nutritional services.

While nutrition services should be designed to reach the total population, some groups of people will require special attention or priority in the provision and delivery of nutrition services. These include poor families who are usually at higher risk of malnutrition, nutritionally vulnerable groups including infants, children, and youth in the growing years; women in the child-bearing years; and the elderly.

Outreach efforts to identify those in need of nutrition assistance and provide necessary services should be encouraged. Staff of public and private agencies, as well as volunteers, should be trained and used for *outreach* efforts.

#### C. NUTRITION AND HEALTH

Nutrition is a critical factor in the promotion of health, in the prevention of disease, and in the rehabilitation from illness or injury. Thus, nutrition should be an integral component of all health and health-related programs and existing and emerging health delivery systems. Such systems should provide for evaluation of nutritional status as well as for the nutritional aspects of health promotion and maintenance, treatment and rehabilitation. Personnel and other resources required to deliver such nutritional services should receive adequate support.

#### D. EDUCATION IN NUTRITION

The public has a right and a need to be informed about nutrition and the relationship of nutrition to health and social and economic well-being.

The Department has a distinct role to play in the provision of nutrition education including (a) the provision of continuous educational programs on nutrition to reach all segments of the population, and (b) calling national attention to the problems of malnutrition and corrective action necessary. Any such programs must recognize the right of families to preserve the food patterns integral to the ethnic, and religious groups from which they draw their identity.

Education programs in nutrition should utilize all Department programs which provide a point of contact with the public and involve cooperation with other Federal agencies, State and local agencies as well as the private sector.

In addition to education in general nutrition, more specific education is needed as part of health care programs. Since nutrition is a critical factor in the promotion of health and prevention of disease and in re-

covery and rehabilitation from illness or injury, patients and their families need counseling and education in nutrition in order to assume responsibility for their own nutritional care, manage early symptoms of nutritional problems to prevent complications and implement prescribed diets.

Education of the public in nutrition and the provision of nutrition services to assure good nutrition can only be accomplished if adequate numbers of trained nutrition personnel are available.

#### E. MONITORING AND SURVEILLANCE

Systematic epidemiological studies to determine the nutritional status and good intake pattern of the population and an effective nutrition surveillance and monitoring system are essential to the establishment of appropriate action programs to deal with problems of nutrition. Those segments of the population whose diet is inadequate, excessive, or inappropriate for their health status, need to be identified in order to better target program funds and services to their needs. Trends in relation to food intake and changes in nutritional status need to be identified to alert the Department to potential problems. Such studies also serve as a basis for evaluation, not only of specific nutrition and food programs, but also of general health, welfare, and education programs designed to improve the health of the nation's citizens.

#### F. RESEARCH

The Federal Government should encourage, stimulate, initiate and support basic and applied research in the field of Nutrition. There is a need to carry out Nutrition Research related to Health, chronic and metabolic diseases. Also, Nutrition Research on human requirements and the factors affecting requirements is needed. The application of nutrition, both in health education programs and as part of clinical medicine, should be encouraged and where necessary supported, as part of Health Service Program.

A policy of research support for nutrition, both as part of studies on specific diseases, i.e., diabetes, cardiovascular disease, obesity, and as an area of health deserving attention as a fundamental component of optional health, is required of the Department.

Research findings, particularly those related to health benefits associated to changes in the diet, must be incorporated into health programs in order to benefit the public as quickly as practically possible. Close cooperation between Nutrition Research groups and those responsible for providing health care should be encouraged.

It is urged that the Department should provide a percentage of total health resources for nutrition research and activities.

#### G. EVALUATION

Evaluation must be a part of every program, built into the basic program components, and designed to report the progress toward the program goal. The primary criteria for evaluating any program designed to meet the nutritional needs of family units must be made in human terms—the preservation of human dignity, the maintenance of adequacy, the realization of the goal of a sound and healthy citizenry.

## H. MANPOWER

The Federal Government should provide leadership in the recruitment and training of all levels of nutrition personnel required to staff adequate nutrition services.

Basic support should be given to public and private institutions involved in nutrition training programs, or with the capability of developing such training.

Federal support of student assistance for the health professions should include attention to the need for nutrition manpower.

Programs targeted on improving the distribution of manpower resources should consider nutrition manpower and needs of areas of critical shortage. In other words, national emphasis should be on increasing the supply of nutrition manpower as well as improving their distribution and utilization.

## I. COORDINATION

Nutrition should be considered as joint responsibility of Government, private groups and organizations, the family and the individual.

Cooperation between groups within the Department as well as with other agencies' programs is needed to assure cooperation, coordination, and a flow of information among those involved in nutrition related activities. Of special concern is the cooperation between Federal, State, and local government groups. The partnership of these groups in relation to nutrition is essential to success. Direct exchanges of ideas based on surveillance and evaluation information obtained as part of programs as well as in specific programs should be arranged on a continuing basis.

## J. LEGISLATION

The policy of the Department should be to evaluate all health, education, social services and income maintenance legislation and determine the need for a nutrition component, where nutrition is a necessary program factor. Suitable language should be provided to assure that services and personnel support will be an integral part of the law.

Appropriate attention should also be given to nutrition in the development of program legislation as well as regulations. Frequently, nutrition is either omitted or included as an elective component in legislation and regulations for the Department's programs.

## K. RESOURCES

The Department should provide a percentage of total resources to programs for nutrition services, research and education of manpower.

## APPENDIX AA

[Revised November 12, 1974]

### ADMINISTRATIVE CONFIDENTIAL DRAFT

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#### I. PREAMBLE

As the Nation moves ever closer to assuring universal access to health care, and the need for more effective preventive care becomes increasingly evident, the importance of assuring good nutrition for everyone moves ever closer to the center of attention. This logic has been present at the subconscious level for a long period of time; it must now be raised to the conscious level and appropriate action taken.

We have discovered that our high national standard of living has not proven adequate to the task of protecting large sub-sets of our population from insufficient and nutritionally inadequate diets. In addition, it is apparent that the affluence of America has not protected her people from numerous degenerative diseases: (cardio-vascular) heart disease, cancer, obesity. While the relationship between starvation or malnutrition and food is abundantly clear, the suggestion that good nutrition can prevent disease states needs more clarification and investigation.

Nutrition is an expression of the health state resulting from food practices, genetic constitution, and other environmental conditions. The fact that food practices are influenced or modified by other factors, such as socio-economic and cultural conditions, compels consideration of such factors in any policy which would improve the nutritional status of the individual and the Nation, but it does not move the focus of attention from nutrition as a health concern first and foremost.

Nutrition affects health from time of conception to death. Faulty nutrition leads to increased infant mortality and maternal morbidity; it stunts development, both physically and mentally; and it pre-disposes to or aggravates a spectrum of disease conditions, diminishing the quality of life, personal productivity, and longevity.

While many of the mechanisms by which faulty nutrition has these effects have yet to be elucidated completely, and some of the effects themselves remain to be discovered, sufficient sound information exists with respect to food practices, nutrition, and general health to allow much greater control of health through dietary practices than is now being done. Maximum benefit from existing knowledge will require greater organization of all relevant resources than has been achieved to date. Without such organization and marshalling of resources, much human potential will go unrealized; and, more noticeably, significant relief to the health care system and cost containment will be lost.

The basic goal of the nutrition policy of the Department of Health, Education, and Welfare is to assure the freedom for all people from

poor development or ill health related to nutrition. Whenever activities of the Department involve nutrition, the policies of these programs and activities shall reflect the Departmental commitment to this basic goal.

In assuring food and nutrition practices in relation to optimal human health, the Department recognizes the following supporting goals:

- (1) Promotion of an adequate supply of wholesome food and assurance of its quality,
- (2) Informed and motivated consumer and professional sectors,
- (3) Assured access to the food supply by all, in health or in disease
- (4) New information through basic and applied research,
- (5) Evaluation and surveillance of food and nutritional status,
- (6) International responsibilities.

## II. BACKGROUND

### A. THE RELATIONSHIP OF NUTRITION TO HEALTH

The future of every succeeding generation, now that the pestilences have been largely controlled, is determined more by the combination of genetics and nutrition than by any other combination of factors. For the present, control of human genetics is beyond the grasp of man, but control of nutrition is not. What is nutrition and how does it relate to health and disease?

The science of nutrition can be defined as the interaction of nutrients derived from food with the physiological processes of living systems. Protein, carbohydrates and fat, the three energy nutrients in the diet are accompanied by the accessory factors: vitamins, minerals, water and fiber. All are important for the proper functioning of the organism and none can be replaced completely by any other. Good nutrition must exist for a person to develop physically and mentally at an optimum rate, to carry out work performance to an optimum degree, and to reproduce normally. To assure good nutrition the following conditions should exist:

- (1) Availability of a wholesome food supply.
- (2) Knowledge and understanding by the consumer as to the selection, preparation, and consumption of an appropriate diet.
- (3) Accessibility to food in terms of its distribution, personal income, individual incentives.
- (4) Absence of a health problem which could either impair the person's access to an adequate diet or could interfere with the proper digestion, absorption and/or utilization of nutrients.
- (5) A genetic makeup which is predisposed to good health.

In the first three instances men and governments can attempt to control those environmental factors which would lead to optimum health through balanced nutrition; in the last two instances they may or may not be able to bring about good health through nutrition because of an accident of nature.

#### *Food factors*

Given that good health necessitates good nutrition, the question must then be asked, what constitutes an appropriate diet for an

individual and a wholesome food supply for a nation? The appropriateness and wholesomeness of food can be categorized as follows:

- (1) Quantity
  - a. too much
  - b. too little
- (2) Quality
  - a. purity
  - b. nutrient balance, including variety
  - c. bioavailability

For example, an ideal diet would consist of the number of calories required to meet an individual's energy needs, the amount of protein necessary to build and repair tissues, and those accessory factors needed for digestion, absorption and metabolism. Too little of these nutrients could result in undernutrition or starvation; too much could result in overnutrition or a variety of health problems. Additionally, the nutrients ingested must be varied and balanced, must be as free from harmful agents as possible, and must be bioavailable to the host.

### *Host factors*

Assuming that (1) There exists adequate wholesome food in the United States, (2) that the public can learn what to select and prepare to suit their needs, and (3) that they will have access to an appropriate diet, the question must then be asked, "How does food and nutrition relate to the onset of disease, the amelioration of disease, and the prevention of disease? The hosts who may contract these nutrition related diseases can be delineated as follows:

- (1) Normal
- (2) Abnormal
  - a. congenital
    - (1) genetic
    - (2) teratogenic
  - b. acquired

If the host fits into category "normal", it may be assumed that good nutrition would play a role in the prevention of some diseases (e.g., sufficient iodine in the diet prevents goiter). If he fits into category "genetic", he may be more or less susceptible to a disease (e.g., the genetic predisposition to diabetes). Finally, if he is in category "acquired", he may be in a position to benefit from nutritional therapy in the amelioration of a disease (e.g., the traumatic loss of a large part of the intestine).

In summary, nutrition in health and disease incorporates *host factors* and *food factors*. Optimum health requires wholesome food, knowledge to select and prepare it, access to it, and a host who is free from disease, whether acquired or congenital.

### B. FACTS, ASSUMPTIONS, CONCLUSIONS, AND POLICY STATEMENT

The development of a policy on food, nutrition, and human health with such extensive health, economic and political implications calls for assembly of a broad spectrum of facts, assumptions and conclusions each clearly so identified and the total so arrayed as to depict accurately the current situation.

Facts, assumptions and conclusions should be recognized for what

they are; they represent the state of knowledge at the moment and nothing more. Facts frequently must be used as starting points for discussion, recognizing that they may be rejected together with all assumptions based upon them. Conclusions are determinations based upon limited facts based on presumably relevant experience but which may change with tomorrow's information

1. Promotion of adequate supply of wholesome food and assurance of its quality.

#### *Facts*

(a) In its primary form wholesome food exists in sufficient supply to meet the needs of the entire population.

(b) In the processing and storage of food from its primary to its secondary form as food products, there is opportunity for loss of nutrients, contamination, and distortion of total quality.

(c) There are X food products on the market today and X number of new products being marketed yearly.

#### *Assumptions*

(a) Sufficient knowledge exists which demonstrates that the loss of nutrients can be minimized by the proper handling of foods.

(b) There will always be some unavoidable contamination of foods during processing but good manufacturing and sanitary practices can reduce this risk to a minimum.

(c) There is a possibility that the nutritional quality of fabricated food products will not be equal to that of the food it is meant to replace.

#### *Conclusion*

Therefore, it is necessary to continue to promote an adequate supply and the equitable distribution of wholesome food. Specific guidelines must be developed and enforced to assure the quality of wholesome food along the entire food production chain.

#### *Policy statement*

The DHEW recognizes that its statutory authorities in respect to supply are limited to measures to assure only some aspects of quality through setting of some standards, monitoring of products, and "rejecting" deficient products. The Department of Health, Education, and Welfare acknowledges the fact that authorities in respect to many aspects of the food supply are shared with the United States Department of Agriculture, the Environmental Protection Agency, and other Federal agencies and State and local governments. Since U.S.D.A. has the Federal responsibility for the supply of food, then DHEW adopts the role of advocate of the "demand" side of the equation, demand as to sufficiency, variety, quality, and reasonableness of costs.

Identification of guiding principles and standards of food quality will be hollow accomplishments if they are not applied to assure the highest attainable quality of the foods that appear in the marketplace. To accomplish this, there must be a system of regulation that clearly enunciates principles and practices of the highest attainable and practicable order and establishes operating practices which ensure compliance. Accordingly, this Department commits itself to those actions which encourage, foster, and support, within its available resources:

- (a) increased awareness that nutrition and food supply are health

matters of prime importance, in which consumer interests should be uppermost considerations, (b) examination of the philosophy and effectiveness of various approaches to the assurance of quality, (c) improvement of food manufacturing practices through development of appropriate guidelines, and (d) monitoring of manufacturing practices and dissemination of findings.

## 2. Informed and motivated consumer and professional sectors.

### *Facts*

(a) DHEW's ten state nutrition survey states: "As the homemaker's educational level increased, the evidence of nutritional inadequacies of the children decreased" (4)

The FDA's Food & Nutrition Consumer Survey, June 1974, shows that the educational level of the consumer is directly related to good food buying practices (reading ingredient labels, concern for well-rounded meals, etc.) (5)

(b) There has not been structured, effective, continuous nutrition education per se in the public schools from Kindergarten through 12th grade. (6)

(c) \$141 billion is spent annually by Americans for food. While the food industry spends \$4 billion annually on food advertising, only a fraction\* of this amount is spent by the government on nutrition education or by public service organizations such as the Nutrition Foundation (\$100,000)\* (7) to promote sound, unbiased nutritional information.

(d) A study in 1969 by the Advisory Council on Food and Nutrition of the AMA revealed that only 7 out of 60 medical schools had a formal nutrition component in their curricula. (8) A conference on Nutrition Education in Medical Schools held in Williamsburg, Virginia in 1972 established a program for teaching nutrition in medical schools. Currently, approximately 28 medical schools are preparing to adopt this program. (9) Similar conferences were held by other health professions, emphasizing these needs. (10)

### *Assumptions*

(a) The poor nutritional status of many segments of the population, not necessarily relating to socio-economic status, suggests that inadequate nutrition education is at least partially to blame.

(b) If children throughout their formal education are taught the fundamentals of nutrition and sound eating habits, they will more likely be motivated to maintain good nutrition practices.

(c) After formal education ends, ongoing, accurate nutritional information from the appropriate sources will counteract misinformation and will thus enable the individual to select, prepare and consume wholesome foods.

(d) If health is to be the ultimate goal of a nutritious diet, then surely the health professionals must have thorough training in the fundamentals of this science.

### *Conclusions*

Sound principles of nutrition must be incorporated into public school curricula, must be relayed in the most effective manner to the consuming public, and must be taught to the health professionals.

### *Policy statement*

An effectively motivated population must be well informed. Soundly-based information must be conveyed to those sectors of the population who are best qualified to inform and educate, using all of the appropriate, highly sophisticated educational techniques and media now available, and ultimately it must reach the consumer.

Accordingly, the Department of Health, Education, and Welfare commits its authorities and extensive resources to encourage, foster, and support both public and private programs to:

- (a) Enunciate principles of sound nutrition and dietary practices.
- (b) Inform and educate all receptive populations in respect to these principles and practices.
- (c) Make available to the general public, (in terms that are intelligible and useful), all necessary, appropriate, and obtainable information on the composition of marketed foods in respect to both unprocessed and processed.
- (d) Seek strong measures to control those food advertising practices that tend to misinform or mislead the consumer and eliminate exploitation of the young and uninformed viewers of television by food advertising which ignores or neglects principles of sound nutrition and dietary practices.

3. Assured access to the food supply by all, in health or in disease.

### *Facts*

(a) The National Nutrition Policy Study Hearings of the Senate Select Committee on Nutrition and Human Needs, held in June 1974, devoted a panel to the description of the high nutritional risks of "Special Groups" in the U.S. In their Report and Recommendation VIII, ample evidence was presented showing the need for improved and assured access to nutritious foods by those susceptible groups. (11)

### *Assumptions*

(a) Certain segments of our population are at a higher risk of malnutrition, such as infants, children, women in child bearing years, the elderly, the poor, the institutionalized, and certain ethnic groups.

(b) Through the Government's social economic mechanisms the more advantaged and independent U.S. citizens provide for the needs of the more dependent.

(c) The availability of adequate food income will provide the opportunity to acquire necessary foods.

### *Conclusions*

Those subsets of our population most susceptible to risks of malnutrition and concomitant health effects must be protected by the appropriate public programs and services.

### *Policy statement*

Equity does not exist when the most fundamental of human needs, an adequate food intake, is not assured to everyone. To a degree, access to food can be assured by incomes above certain levels. It is in part to assure access to a sufficient supply of food that the Administration has supported a concept of income maintenance. However, as inflation continues to erode the purchasing power of the currency, there is a continuing need to readjust the definition of a subsistence

level, and regardless of inflation, there are circumstances in which the individual's income cannot assure adequate access to food of the appropriate kinds or amounts. Patients in institutions frequently receive far less than optimal dietary care and can do little or nothing to improve their conditions. In fact, children and pregnant women and the aged are vulnerable segments of the population who should be assured access to high quality food because of their specialized needs.

The Nation should be satisfied with nothing less than its best effort to identify failures of access and to create acceptable means of correcting the deficiencies.

Accordingly, the Department of Health, Education, and Welfare commits its resources to assuring, as much as possible, adequate access to the Nation's food supply by encouraging, fostering and supporting:

(a) The most sound and equitable means of income maintenance,

(b) Measures that effectively monitor performance of all food programs, including institutional care, over which the Department has authority,

(c) Strengthening of regulations under these authorities as deficiencies and opportunities for improvement are identified,

(d) Working closely, in an advisory capacity, with Federal, state and local authorities to improve food and dietary services,

(e) Working closely with community leaders to raise the level of awareness in the community at large of the individual's obligations to society in respect to the food needs of those individuals who are less fortunate than themselves.

#### 4. New information through basic and applied research.

##### *Facts*

(a) The deficiency diseases (scurvy, rickets, beriberi, pellagra) were controlled when the specific limiting factors in the diet (vitamin C, vitamin D, thiamin, niacin, respectively) were identified and provided through necessary means. (12)

(b) There are many diseases in the United States today (ex: obesity, diabetes, coronary heart disease, dental caries, anemia) (13) that have not yet been brought under control. Some scientific experts believe these diseases could be controlled by nutritional factors.

(c) There is no perfect synthetic diet for animals or man which will both support growth and reproduction. (13½)

##### *Assumptions*

(a) There is abundant existing knowledge resulting from basic research identifying the nutritional factor(s) in disease.

(b) This knowledge implies that there are many specific areas where the relationship is suspected and needs to be clearly defined.

(c) In spite of extensive knowledge in the areas of the nutritive composition of foods, we cannot yet prepare an adequate diet which will support reproduction.

##### *Conclusion*

Therefore, because research findings identified some of the vitamins as the link to deficiency diseases, more basic research can reveal heretofore unknown relationships in this area.

Applied research must be undertaken to elucidate the causative factors in the suspected nutrition-related diseases.

There must be a focus of research effort in the area of new food products and their nutritive composition which will lead to the fulfillment of all of man's nutritional requirements.

#### *Policy statement*

The search for better food practices must begin with the identification of salient significant questions. At one end of the spectrum, it is necessary to ask repeatedly, "What is nutrition?" "What are the relationships between food or dietary practices and human health?" At the other end of the spectrum, it is necessary to ask repeatedly, "What differences in health result from the programs that attempt to or actually do modify food and dietary practices?" Between the two ends of the spectrum there are many kinds of worthy research and information-gathering possibilities; all are needed in appropriate degrees to achieve optimal results.

We must have sound information upon which to base decisions, ranging from recommendations for modification of food crops through safety in use of pesticides and other agricultural chemicals; through harvesting, storage, transportation, processing and marketing; to composition of diets in relation to individual needs, preparation of food for consumption, and storage of food in homes and institutions. And, we must have information on the most effective educational methods for improving the food practices of various segments of the community.

We must apply the Nation's best resources of critical analysis and judgment to the identification of the most pertinent and promising questions and answers; we must share this responsibility with other departments and agencies within the Federal Government, and we must call upon resources of other levels of government, of academia, of industry, and of the consuming public. And, finally, we must create an effective mechanism for these purposes.

Accordingly, the Department of Health, Education, and Welfare commits itself to the creation and maintenance of an office of nutrition charged with lead responsibility for:

(a) Advising the Assistant Secretary on the development of programs designed to acquire through research the information needed to assure successful fulfillment of the Department's responsibilities in respect to food, nutrition, and human health.

(b) Advising the Assistant Secretary on the development of broad policies to make the most effective application of information being generated, both within and beyond the Department, for the improvement of the food and nutrition programs to the level of the consumer.

(c) Assuring liaison with other Governmental agencies, with academia, with industry, and with consumer groups, such that the Department's food and nutrition programs will be attuned to the greatest needs and opportunities for the improvement of health and will work in a complementary manner with those beyond the Department.

#### 5. Evaluation and Surveillance of Food and Nutritional Status.

### *Facts*

(a) USDA, DHEW and other public and private agencies monitor the disappearance/consumption levels of food in the United States, (14) the pesticide levels in food, (15) and the nutritional and health status of the population, in relation to socio-economic factors. (16)

(b) Preliminary and final findings indicate that there are serious continuous changes in the diets of all Americans.

(1) X number of new food products are introduced to the consumer yearly. (17)

(2) There are 34,000,000 American women working outside the home of which 38% have school-age children. (18)

(3) Inflation has caused notable shifts in consumption of specific foods. (19)

(4) X number of overweight Americans try weight loss diets each year. (20)

(5) Cardiovascular risk patients are being advised by the American Heart Association to shift to low cholesterol, low saturated fat diets. (21)

### *Assumptions*

(a) To maintain good health we must first know the condition of our food supply and the nutritional status of the population.

(b) Continual changes in eating patterns are caused by:

(1) The replacement of traditional food with modified and/or convenience foods.

(2) Changing life styles.

(3) The shrinking food dollar.

(4) Legitimate and faddish health concerns.

### *Conclusion*

Therefore, permanent ongoing measures are necessary to monitor and evaluate the continual changes in our food supply and eating habits and their ramifications for health.

### *Policy statement*

Basic to any food and nutrition policy is *the need to know*, the need is an accurate and up-to-date system of surveillance and evaluation. The assessment process must necessarily address all activities now supported by the Department, ranging from identification and enunciation of the most sound principles of nutrition, and dietary and food practices; of food quality and safety; and of education and motivation of various population and industry sectors; to programs that are designed to assure access to the food supply.

Into this evaluative process there must be built a means by which the performance of Government, together with industry, the professions, and the consuming public can and will be subjected to shrewd and realistic analysis which must lead to adjustments of future courses that will be assuredly "on target".

6. International responsibilities:

### *Facts*

(a) Plentiful food exists in the United States, evidenced by the amount of grain produced (X), vs the amount consumed by Americans

(X) (22). However, it currently is estimated that 500 million people in the world are starving or are malnourished. (23)

(b) The Marshall Plan was the beginning of America's formal commitment to assist other countries with their needs. (24)

#### *Assumptions*

(a) Because of our plentiful supply of food in excess of national needs, the United States is in a position to assist less developed countries to meet their agricultural and nutritional requirements.

(b) Many Americans feel that affluent countries have an obligation to share their resources with other nations in crisis situations with respect to food.

#### *Conclusions*

Therefore, the United States should make available its resources and expertise to enable underdeveloped countries to develop a strong base for independence in their food needs.

#### *Policy statement*

In considering any domestic policy we are obligated at least to consider the probable impact of our domestic actions on other nations, especially those in less fortunate circumstances. This does not imply a necessary obligation on the part of the United States to submerge its own welfare to that of other nations, but it does implicitly obligate the United States to choose the better of alternatives where the consequences are not substantial to the U.S. interests. Further, while considering alternative courses of action on domestic issues, especially in respect to the food supply, thought should be given to possibilities which may be advantageous not only to other nations but also beneficial to the health and welfare of the U.S. population.

For example, it is accepted fact that animal sources are much more costly sources of protein than are the grains. To put the matter more directly, a given weight of certain grains meets the protein needs of more people than an equivalent weight of animal protein. Per se, this observation does not necessarily dictate a major shift in dietary practices by Americans to conserve grain for the less sufficient nations, although this might be a compassionate act. But, if it were demonstrated that such a shift would be actually beneficial to American health, then evaluation of such a move would be worthy of serious consideration.

To this end, the U.S. Department of Health, Education, and Welfare is deeply interested in and committed to enunciating the most appropriate and equitable means for providing food aid to the world's hungry.

## APPENDIX BB

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,  
PUBLIC HEALTH SERVICE,  
*February 7, 1975.*

Memorandum.

To: The Secretary.

From: Acting Assistant Secretary for Health.

Subject: Statement on the health aspects of nutrition.

The attached statement on the health aspects of nutrition is proposed as an informative expression of this Department's commitment to improving the nutritional status of all Americans and a step towards the development of a national policy on nutrition.

It is intended to provide a pattern of priorities to guide DHEW agencies in the planning and conduct of their nutrition-related programs. The effectiveness and productivity of agency nutrition programs can be improved by:

1. Incorporating and giving explicit recognition to nutrition objectives in the plans of all health-related programs
2. Assuring through the planning and budget process that full consideration is given to funding the nutrition components of all health-related programs, including the need for and feasibility of redirecting available resources.
3. Establishing a method through which other Federal Departments and members of the non-Federal sector, including the general public, can communicate easily with this Department, and obtain information, guidance, and expert assistance on the many interrelated aspects of nutrition.
4. Maintaining close and continuing relationships with appropriate Federal Departments, such as Agriculture and State, to assure consistency in Federal policies on food and nutrition and full recognition of the health aspects of nutrition in such policies.

To achieve these objectives, the Assistant Secretary for Health should be formally charged with the responsibility for providing policy guidance and coordination to agencies of the Department on the health aspects of nutrition and for formulating, in collaboration with them, a Department policy on nutrition. The policy would be reviewed annually to reflect all elements of Department programs and needs and would be included in the Forward Plan for Health. To maintain consistency in approach, the Assistant Secretary for Health should also be given responsibility for assuring effective communication and relationships with members of other government agencies and the non-Federal sector on matters of nutrition.

It is my hope that this statement will generate dialogue on this subject within DHEW and with other Federal agencies and provide a basis for consensus on how the objectives of a DHEW nutrition policy can best be achieved.

THEODORE COOPER, M.D.

Attachment

## HEALTH ASPECTS OF NUTRITION

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### PURPOSE AND SCOPE

Adequate food and sound nutrition are essential to good health. Not only are they crucial for human survival and key factors in the prevention and recovery from illness, but they are prerequisites for improving the quality of life of Americans and other peoples of the world.

Enunciation of a nutrition policy at this time reflects the growing concern of the Department, the scientific community, and the public about the role of nutrition in human health and a greater recognition of the opportunities for enhancing the Nation's health through improved nutrition.

The health dimensions of nutrition range from problems of malnutrition, obesity, and the quality and safety of the food supply, to the links between the foods we eat and the development of disease. These and related problems can be addressed productively if the resources and energies of DHEW are focused more deliberately on achieving the objectives of a common nutrition policy and if communications among DHEW agencies and relationships with other Federal Departments are strengthened.

The policy statement describes the Department's major program objectives with respect to the health aspects of nutrition. The statement also serves as a framework around which DHEW agencies can shape program initiatives, increase or redirect resources, and establish more collaborative relationships among themselves with other Departments and with the non-Federal sectors.

### OBJECTIVES

The goal of the nutrition policy is to improve the quality of life by enabling all Americans to reap the health benefits of sound nutrition.

1. A high priority is to ensure that every American has access to an adequate supply of wholesome food which provides all nutrients known to be essential to maintain or improve health and vitality.

To the extent that the supplemental income programs of DHEW affect access to nutritious food, the Assistant Secretary for Health shall work with the Commissioners of the Social Security Administration and the Social and Rehabilitation Service to develop Departmental nutrition policy. Special attention shall be directed at the relationship between sound nutrition, the availability and cost of food, and policies of the Department of Agriculture.

2. Nutrition concerns shall permeate all health-related activities. Nutrition shall become a mandatory component of these programs of public education, primary care and comprehensive health care funded or supported by the Department:

In the planning, organization, and implementation of health care systems.

As a vital part of direct health services available throughout the United States.

In health planning and the provision of services to those population subsets at special risk of malnutrition and who have concomitant, special nutrition requirements: infants, young children, pregnant and lactating women, and the aged.

In the management of diseases or other health problems which are initiated or aggravated by inappropriate or poor diets—e.g., dental caries, diabetes mellitus, hypertension, obesity, iron deficiency anemia, and certain forms of arteriosclerosis and cardiovascular disease.

In the development and use of special diets for the treatment of diseases or other health problems—e.g., peptic ulcer, gout, heart failure, food allergy, phenylketonuria and other inborn errors of metabolism.

In the training of nutrition and health-related personnel.

3. Monitoring activities shall be needed to establish:

The Nutritional Status of the Nation. This shall be accomplished through general surveillance activities at the national level, and through local surveys of high-risk populations. Such monitoring shall include the identification and full assessment of the extent and location of nutritional problems according to region, income, food availability, ethnicity, and sex. This shall also include monitoring trends of the eating habits of the American people, as well as determining the long-range effects of chronic ingestion of various nutrients. Studies shall explore the immediate and long-term linkages between dietary habit, nutrition, and health.

The results of surveillance and monitoring shall be linked programmatically to activities of the Department to promote and enhance the health and well-being of the population.

Safe and High-Quality Food. To ensure the consumption of safe and wholesome food and nutrients, it is required that there be determined the nutrient composition of foods and the presence of potentially hazardous substances—additives, artificial coloring and fortifiers—as well as inadvertent contaminants, infectious agents, toxins, or other dangerous materials as might naturally occur in foods. This also recognizes potential problems associated with the entry into the marketplace of foods of uncertain composition as well as variations in the quality of food that can result from changing agricultural practices, preparation, processing, packaging, transportation, and storage. Such measures require monitoring of food safety, basic and applied toxicological research and technical and financial assistance of State, local, and Federal governments. Finally, in order that the public may make safe and intelligent selection of foods, full and accurate labeling must be assured.

4. New knowledge shall be developed in the areas of:

*Biomedical research* in order to increase our knowledge of human nutritional requirements and improve our understanding of the individual and complementary actions of the more than 40 vitamins, minerals, amino acids, and other nutrients known to be essential in human growth and development.

Special attention shall be given to understanding the role of balanced nutrition in the prevention and treatment of disease, the improvement of maternal and child health, and its affect on the aging process. Research shall also be directed towards helping to resolve the controversy concerning true human protein needs and the feasibility of relying more heavily on grain as a source of protein. This not only provides an opportunity for possible improvement in health, but also offers an opportunity for more equitable and improved grain utilization in the face of increasing world demand for food.

*Behavioral research* shall be directed at the problem of over-nutrition, including the study of the social and psychological factors contributing to overeating, obesity, and the wasting of food. It shall also focus on nutritional deficiencies and behavioral aspects of problems, such as alcoholism.

*Nutrition assessment.* Critical to these efforts is the development of more effective and inexpensive methods of appraising the nutritional status of population groups. Additional research is needed to define human nutritional requirements more precisely. This information is essential for sound nutrition planning, food labeling, and the early detection of subclinical deficiency states. This new knowledge shall be brought into the realm of applied efforts in order to take on the task of ameliorating and preventing disease through improved diet.

*Health service delivery* in order to better understand and improve methods of organizing, financing, and delivering nutritional services in our multidisciplinary health system and diversified society. Improved nutrition programs run by health departments, schools, churches, and other community organizations shall be a part of the national commitment to comprehensive health care.

*Methods of health education* aimed at improving the widespread transfer and prompt application of old and new knowledge about nutrition. This knowledge must be judged valid and accepted as beneficial by the scientific nutrition community and pertinent Federal agencies. Further, nutrition information shall be presented to consumers in ways that are useful in selecting foods appropriate to individual nutritional needs. Finally, efforts shall be directed towards improved nutrition education for children in school, along with better nutrition counseling of mothers and pregnant and lactating women, as well as better provision of information to the medical community and to the population at large.

## APPENDIX CC

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DEPARTMENT OF HEALTH, AND WELFARE,  
OFFICE OF THE SECRETARY,  
*Washington, D.C., September 24, 1975.*

To: Agency Heads.

From: Assistant Secretary for Health.

Subject: DHEW Nutrition Coordinating Committee.

This is to officially acknowledge the expiration of the two-year charter authorizing the establishment and activities of the DHEW Nutrition Coordinating Committee (expiration effective April 4, 1975).

In light of recent Department policy on health, food, and nutrition, and in view of the important role that nutrition plays in preventing illness and maintaining health as detailed in our Five Year Forward Plan for Health, I am evaluating various options in an effort to select the best organizational mechanism for addressing nutrition (and health) issues that relate to the Department. Meanwhile, issues relating to health and nutrition will be coordinated by my office, with contact and correspondence being made with appropriate agencies and divisions within the Department.

THEODORE COOPER, M.D.

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## APPENDIX DD

### FORMULATION OF PROGRAM FOR FOOD ADMINISTRATION\*

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Shortly after the declaration of war the government cabled to Mr. Herbert C. Hoover, Chairman of the Commission for Relief in Belgium, requesting him to return to the United States in order that the government might have the advantage of his experience and expert knowledge in dealing with the war-time food problems. The President also asked Congress for broad powers of control over the production, distribution, and consumption of food in the country.

After Mr. Hoover had arrived in this country and had reviewed the situation, the President on May 19, 1917, made an announcement of the program of food control which it was proposed to establish. At the same time Mr. Hoover also made a statement of his conception of the task of food control.

According to the statements of the President and of Mr. Hoover the program which was to be adopted for meeting the food situation was briefly as follows: In order to meet the shortage, every encouragement and direction possible was to be given to increased production, through the assistance of the producer by the Department of Agriculture and the protection of his interests by the Food Administration. In addition to this method of increasing our surplus, the conservation of food already in existence was to be approached through the elimination of wasteful practices and unnecessary consumption, and through enlisting the women of the country in the service of the National Food Administration and securing their pledge to follow so far as possible the direction of the organization which it was proposed to establish, not only to prevent waste but also to substitute the more plentiful for the less plentiful and more concentrated foods. Protection of the people against exorbitant prices was to be accomplished through the regulation of the distributing trades by enforcing the principle of "reasonable profits," and the elimination of speculation, and through stabilization of prices by direct governmental control of the more staple commodities and a general regulation and control over the distribution of all food-stuffs. In this control the existing machinery of the food trades was to be utilized without unnecessary reorganization or disturbance. The problems of conservation of existing supplies and regulation of distribution practices and profits were to be entrusted to a separate agency known as a Food Administration, which should be vested with broad powers of control over the food supply of the country.

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\*From the "History of the United States Food Administration, 1917-1919," by William C. Mullendore, Stanford University Press, Stanford University, Calif., 1941.

The five cardinal principles of food administration were stated by Mr. Hoover in his statement of May 19 to be:

First: That the food problem is one of wise administration and not expressed by the words "dictator" or "controller" but "food administrator."

Second: That this administration can be largely carried out through the co-ordination and regulation of the existing legitimate distributive agencies of the producers, distributors, and consumers.

Third: The organization of the community for voluntary conservation of foodstuffs.

Fourth: That all important positions, so far as may be, shall be filled with volunteers.

Fifth: The independent responsibility of the food administration directly under the President, with the co-operation of the great and admirable organization of the Department of Agriculture, the Department of Commerce, the Federal Trade Commission, and the railway executives.

Mr. Hoover many times emphasized his faith in and his reliance upon the voluntary service and co-operation of the people in the solution of the food problems. In his statement before the Senate Committee on Agriculture a month later, June 19, he again said:

The legislation proposed does not confer food dictatorship, nor does the administration devised contemplate anything of that nature. The food administrations of Europe and the powers that they possess are of the nature of dictatorship, but happily ours is not as their plight, for we have reached no point of desperation in our food supply. The character of the administration proposed is based on an entirely different conception from that of Europe. The tendency there has been for the Government to take over the functions of the middleman, first with one commodity and then another, until, in the extreme case, of Germany, practically all food commodities are taken directly by the Government from the producer and allotted on an iron-clad system of ticket distribution to the consumer. The whole of the great distributing agencies, and the financial system which revolved around them have been suspended for the war or destroyed for good. That is the system which is dictatorship and which, so far as I can see, this country need never approach. In distinction from this, our conception of the problem in the United States is that we should assemble the voluntary effort of the people, of the men who represent the great trades: that we should in effect, undertake with their co-operation the regulation of the distributing machinery of the country in such a manner that we may restore its function as nearly as may be to a pre-war basis, and thus eliminate so far as may be the evils and failures which have sprung up. And at the same time we propose to mobilize the spirit of self-denial and self-sacrifice in this country in order that we may reduce our national waste and our national expenditure.

It was therefore evident from the first that the proposed governmental organization for handling our war-emergency food problems was not one which should arbitrarily determine and promulgate its orders but rather one which would lead and direct the people and the trades of the nation in their voluntary efforts to co-operate with the government in dealing with the exigencies. This was the guiding theme of food administration in the United States.

The consideration of the legislation desired was begun before the House Committee on Agriculture about April 21; but the task of framing such a comprehensive measure was extremely complex and difficult, and it was not until June 11, 1917, that it was reported from the Committee to the House by Hon. Asbury F. Lever, Chairman of the Agriculture Committee of the House. A week later, June 18, 1917, it was taken up by the House and the Senate concurrently. In the House it was taken up under an agreement that it should remain the order of business until passed, and it passed that branch of Congress on June 23, 1917. In the Senate the measure met with spirited and even bitter opposition, and it soon became evident that it would not become a law by the first of July.

## WORK OF VOLUNTEER ORGANIZATION PRECEDING PASSAGE OF FOOD CONTROL ACT

The institution of a control over food prices and trade practices through the regulation of the distribution and manufacturing trades of the country and like measures could proceed only after the passage of the legislation giving the President the necessary authority. However, the conservation of food under the theory followed in the United States depended, as has been said, not upon law but upon the voluntary action of the people and could be proceeded with in the absence of an enabling law. Recognizing the urgency of the situation, the President on June 12, 1917, addressed the following letter to Mr. Hoover:

MY DEAR MR. HOOVER: It seems to me that the inauguration of that portion of the plan for food administration which contemplates a national mobilization of the great voluntary forces of the country which are ready to work toward saving food and eliminating waste admits of no further delay.

The approaching harvesting, the immediate necessity for wise use and saving, not only in food but in all other expenditures, the many undirected and overlapping efforts being made toward this end, all press for national direction and inspiration. While it would in many ways be desirable to wait complete legislation establishing the food administration, it appears to me that so far as voluntary effort can be assembled, we should not wait any longer, and therefore I would be very glad if you would proceed in those directions at once.

The women of the Nation are already earnestly seeking to do their part in this our greatest struggle for the maintenance of our national ideals, and in no direction can they so greatly assist as by enlisting in the service of the Food Administration and cheerfully accepting its direction and advice. By so doing, they will increase the surplus of food available for our own Army and for export to the Allies. To provide adequate supplies for the coming year is of absolutely vital importance to the conduct of the war, and without a very conscientious elimination of waste and very strict economy in our food consumption, we can not hope to fulfill this primary duty.

I trust, therefore, that the women of the country will not only respond to your appeal and accept the pledge to the Food Administration which you are proposing, but that all men also who are engaged in the personal distribution of foods will co-operate with the same earnestness and in the same spirit. I give you full authority to undertake any steps necessary for the proper organization and stimulation of their efforts.

Cordially and sincerely, yours,

WOODROW WILSON.

In compliance with this direction, Mr. Hoover proceeded immediately (almost two months before the passage of the Food Control law) with the organization of the conservation work. The measures taken in this connection are hereinafter considered under the general heading of "Conservation."

It was equally important that the food trades of the country should be informed of the proposed measures of control and the program of the Administration with respect to them. With a law pending before Congress which vitally affected their industries, these business men could not proceed with their plans with any degree of certainty; and the confusion resulting from this uncertainty tended to aggravate the already disturbed conditions. The President having announced his intention of placing this control in the hands of Mr. Hoover, insistent demands were made upon the future Food Administrator for an outline of his plans. Obviously, without a knowledge of the extent or nature of the powers which would be made available to him by the Congress, it was impossible for Mr. Hoover to answer these demands satisfactorily with definite information. He did, however, meet the various delegations of trade

representatives sent to Washington and discuss with them tentative plans. He further selected volunteer specialists to study many of the various special problems and to gather information which would be ready for use immediately upon the creation of a Food Administration with definite powers.

With the wheat millers and grain trades, where the necessity for action was particularly urgent because of the beginning of the movement of the new wheat crop, a definite program was mapped out through conferences which began as early as May. Other important conferences were held with canners, wholesale grocers and jobbers, cold-storage warehousemen, and dealers in perishable foods. Some of these conferences were called by the government in connection with the plans for securing supplies for the Army and Navy.

While the trades were greatly concerned over the unstable conditions created by the delay in the passage of the law, the paramount idea pervading every conference was the desire of the representatives of the trade to place their industry in a position to work in harmony and the utmost possible co-operation with the plans of the government. The business men of the country were aware of their responsibility in the mobilization of the country for war, and there was everywhere manifest a hearty response to the call for patriotic service. Because of this prevailing spirit, many of the most helpful suggestions for the control program came from the representatives of the industries to be controlled.

#### PASSAGE OF THE LAW AND CREATION OF THE FOOD ADMINISTRATION

After five weeks of continuous debate in the Senate the Food Control Bill was passed by that branch of Congress on July 21, 1917. Many issues were discussed in connection with the bill, some of which were quite unrelated to the necessity for and the problems of food legislation. The attempt to include steel, cotton, and many other commodities, as well as the raising of the prohibition issue, were among the causes of the prolongation of the debate. As it passed the Senate the measure was quite different from the one which had passed the House. Important amendments made by the Senate involved the inclusion of fuel and fertilizer control, the provision that the law should be administered by a board of three commissioners, and a limitation of the licensing power. The bill went to conference on July 25, 1917. After a prolonged debate between the conferees the bill was reported out of conference and returned to the House on August 3, 1917, where it was agreed to by unanimous vote on August 3, 1917. Most of the changes made in the bill by the Senate, with the exception of the addition of fuel and fertilizer control, were eliminated in the conference. The conference report was taken up in the Senate on August 4 and was agreed to on August 8 by a vote of 66 to 7. The bill became a law (now commonly called the Lever Food and Fuel Control Act) upon approval by the President on August 10, 1917.

On the latter date the President issued an Executive Order which read in part as follows:

Under and by virtue of the power conferred upon me by the provisions of said Act and for the purpose of carrying the same into effect, I, Woodrow Wilson, President of the United States, hereby order and direct as follows:

There is hereby established a governmental organization to be known as and called United States Food Administration.

Said organization shall consist of an officer designated as United States Food Administrator, and such subordinate assistants and employees as may be selected by him for service in the City of Washington, D.C., and elsewhere, with the consent and approval of the President and under such rules and regulations as may from time to time be prescribed.

Herbert Hoover is hereby appointed United States Food Administrator, such appointment to take effect from this date.

Said United States Food Administrator shall hold office during the pleasure of the President.

Said United States Food Administrator shall supervise, direct, and carry into effect the provisions of said act, and the powers and authority therein given to the President, so far as the same apply to foods, feeds, and their derivative products and to any and all practices, procedure, and regulations authorized or required under the provisions of said act, including the issuance, regulation, and revocation in the name of said Food Administrator, of licenses, under said act; and in this behalf he shall do and perform such acts and things as may be authorized or required of him from time to time by direction of the President and under such rules and regulations as may be prescribed by the President from time to time.

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And, whereas the President is further authorized in carrying out the purposes of said act "to utilize any department or agency of the Government and to co-ordinate their activities so as to avoid preventable loss or duplication of effort or funds," all departments and established agencies of the Government are hereby directed to co-operate with the United States Food Administrator in the performance of his duties as hereinbefore set forth and to give said Administrator such support and assistance as may be requisite or expedient to enable him to perform his said duties and avoid duplication of effort and expenditure of funds. . . .

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## CONSERVATION

The conservation activities of the Food Administration were the most typical of its work, because conservation results depended upon and were accomplished through the application of the spirit and faith of food administration in the United States. As has already been stated, this basic idea was the reliance upon the organized voluntary effort of the people of the United States. The Food Administrator believed that in the unselfish patriotic spirit engendered by the war, in the intense longing for participation in war service on the part of an energetic and thoroughly aroused citizenship, there was a tremendous force which could be utilized through proper organization and direction to effect the necessary conservation. He therefore rested the solution of one of the most vital problems in the successful conduct of the war upon this faith in the power of a democracy to solve its problems through the voluntary effort of its informed and enlightened citizenship. The results have demonstrated that this faith was not unfounded or misplaced.

The first requirement of the situation was to arouse this great force, which was to a large degree dormant and only potential, and then to direct it toward the elimination of waste in all the economic processes, particularly those having to do with food. To this end the Food Administration planned to utilize every available channel and instrument in our economic and social organization for impressing upon the people the great central idea of conservation, that careless and willful waste in time of war was unpatriotic and that the citizen who truly desired to assist in winning the war was given an opportunity to render that assistance in a material way every day through wise saving.

In the larger sense conservation refers to and includes all of the measures taken by the Food Administration to secure the more economic handling of food, whether by producer, distributor, or consumer. The primary effort was directed to overcoming the steady increase in food consumption in the United States due to higher wage levels. The secondary purpose of the Food Administration was to instill a spirit of economy and of simple living during war time to the end of providing the reserve to meet the financial drains of the war. The measures and suggestions for the elimination of waste were, however, confined to foods and feeds, and largely to the distributors and consumers of these. The active assistance in saving on the farm and in the immediate marketing from the farm was in the hands of the Department of Agriculture, since it was part of the process of production, although in a few instances the Food Administration did direct special efforts to saving by the producer, as, for example, in the case of wheat-threshing, which will be hereinafter referred to.

#### ELEMENTS OF THE PROBLEM

We may better visualize the problem of conservation if we picture the whole of the United States as a great reservoir containing the food supply. The intake pipes of this reservoir are production and imports. The outlet pipes are domestic consumption and exports. There are, however, two kinds of consumption: one necessary and essential consumption, and the other waste and luxury consumption. The task of the Food Administration here was to guard the exports outlet and to reduce so far as possible the flow of goods through the waste and luxury consumption outlet.

After the food and feed supply leaves the hands of the producers, waste consumption occurs in a variety of ways, first, in the hands of the distributors, and then in the hands of the consumers. The Food Administration was called upon to search out these leaks, direct attention to them, suggest remedies, and, especially in the case of distributors, direct the application of specific remedies.

In distribution the waste occurs in part from negligent and wasteful trade practices: from faulty loading for transportation, from slow transportation, from failure to unload goods promptly from cars; from buying in too large quantities; from such customs as the acceptance by bakers of the return of stale bread; from the so-called combination sales by retailers; from unnecessary resales; and the like. The distributor could in a measure be controlled by regulation under the licensing power; hence with respect to distribution the principal problem was to find the wasteful practice, secure the co-operation of the trade, and devise a workable regulation to end it.

In the case of the consumer there was an opportunity for food saving in many directions. First, an actual reduction of consumption by that portion of our population, at least 30 percent, who ordinarily consume more than they require, and by the others who were inclined to extravagance and increased consumption because of higher wages and the means of satisfying the resulting new demands. Second, inefficient buying and improper cooking practices could be helped by direct instruction. The Food Administration was especially interested in saving certain particular food products of an easily exportable and

highly concentrated quality. These were wheat, meat, fats, and sugar. In the saving of these the substitution program, which called for the substitution of other foods for those which we wished to save, played a major part.

In order to induce people to change their diet, education in the elemental facts of nutrition had to be undertaken and vigorously prosecuted. Eighty percent of the food in the country passes through the hands of the women of the country. Therefore their full co-operation was at once solicited. But while the housewife was first in importance, the men and the children form a large and eloquent part of the consuming public. As consumers they had to be advised that war needs called for a reduction or a change in consumption and their aid solicited. The two elements of this problem were: first, to inform the consumer of the action desired, pointing out where waste and luxury occurred and how it might be remedied; and, second, education, or, perhaps more accurately, educational appeals.

Every agency, every means of assisting in the dissemination of the requests and directions of the Food Administration was utilized. Representatives of the established agencies of society through which groups of people might be reached were called into conference by the Food Administrator in June and July of 1917 and asked to lend their assistance in the work. These agencies included the following: churches, schools, colleges, normal schools, and universities, clubs, lodges, and all fraternal organizations; merchants' associations, retail and wholesale, and other trade organizations; advertising clubs, and other commercial organizations; women's organizations; libraries; transportation companies, both rail and water; and hotels, restaurants, and other public eating places.

In addition to using these established agencies and organizations for reaching consumers, the Food Administration also appealed to people directly through every available medium. First, the press of the country was used for the most important direct daily communication of information concerning the developing program in all the divisions of the Food Administration work. Second, the most important and effective method for directly reaching the women of the country was the personal canvass for membership in and pledges to the Food Administration. Third, advertising—perhaps the most spectacular and best-known medium used—presented the visual appeal through electric signs, signs on bill boards, in street railway cars, railroad coaches, and every space where the eye of the public would be reached. This advertising campaign also included the valuable co-operation of the moving-picture theater. Fourth, speakers were used both locally and nationally to present the appeal verbally to various audiences.

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#### HOME CONSERVATION

At the beginning of the conservation work an advisory council on home economics was brought together in Washington composed of leading home economics and nutrition experts. After the organization of the Food Administration on August 10, 1917, a Division of Home Conservation was created which was also under the direction of home economics experts. The purpose of this division was

to promote in the homes the study of methods of economy in the use and preparation of foods, and particularly to assist the women of the country with the problems created by the substitution program of the Food Administration. A Home Economics Director was appointed in each state as a member of the staff of the State Administrator. The Department of Agriculture and the colleges of agriculture had in many of the states organized extension branches of home economics. The women experts already connected with this extension service were called upon by the Food Administration for assistance, and through the co-operation of the Department of Agriculture this experienced and expert organization was enlisted in this special work of food conservation. The Home Economics Director appointed by the Food Administration was in some states the director of the Home Economics Extension Service of the State College, in others the State Home Demonstration Leader employed by the Department of Agriculture, and in still others the head of the Department of Home Economics of the State College. In each case these state directors employed their local representatives as the local representatives in the Home Conservation work of the Food Administration.

In general, the plan for organizing the women of each state for home conservation was the same as that followed in all of the state organizations, namely, to extend the work of the State Administrator by divisions and subdivisions throughout the state until it came directly in contact with the individual households. The conservation requirements and program determined upon by the Administration at Washington and the state authorities was transmitted to the households through district supervisors. For example, in New Hampshire the districts comprised about five towns each; each of the districts was subdivided by a committee chosen for each town. In charge of each group of twenty-five families there was a local leader whose duty it was to see personally every housewife in her assignment within a period of three or four weeks. In order to provide for all these housewives thoroughly practical scientific advice and help, there was established a force of ten home economics teachers selected by the State Agricultural College. The entire state was then divided into ten instructional districts and a Home Economics teacher was assigned to each instructional district. Within her district a complete schedule was arranged so that the instructor visited each community once a month. At these meetings she met the local leaders and any other women who desired to attend, and went over with them the food lesson of the month as prepared by the Home Conservation Section of the Food Administration at Washington. Discussion was also had upon the facts of the situation upon which the suggested program was based.

The Home Conservation Division in Washington advised in and co-ordinated the work of all the State Directors and acted as a clearinghouse for all information bearing upon the work of these Directors. The Division co-operated closely with the School and College Section and furnished advice in the preparation of lessons on home conservation for the colleges.

An experimental kitchen was maintained and recipes for the use of substitutes were worked out and thoroughly demonstrated before

they were sent to the Home Economics Directors of the different states for distribution. Perhaps the most important of the many activities of this Division was the preparation of material consisting of pamphlets and letters and newspaper releases containing recipes and expert advice on substitutes for sugar, wheat, etc. Statements relative to food values, menus, and the like were submitted to and approved by an expert committee of alimentation before they were released for distribution.

In addition to sending out this large amount of material from Washington, the Home Economics Director of each state devised special programs and information on conservation for the women of her state, particularly with reference to the saving of wheat and sugar. Where the problems in cooking occasioned by substitution were especially difficult, the printed advice as well as the assistance of the local agents in home conservation was a very important factor in relieving the burden of the housewife.

## APPENDIX EE

### THE RELATION OF NUTRITION TO HEALTH, AGRICULTURE AND ECONOMIC POLICY\*

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#### SUMMARY AND CONCLUSIONS

##### A. SUMMARY OF THE REPORT

1. The problem of nutrition necessarily varies widely from one part of the world to another. In some countries, an adequate diet is probably within the reach of the majority of the population; in others, practically all live but little above bare subsistence level. In some countries, food prices are relatively low; in others, they are high in relation to incomes. The League, through its Health Organisation, is making a special study of conditions in the Far East and certain other regions where the level of national income is generally low. Until these data are available, it is impossible to draw sound conclusions as to the nature of the nutritional problems in the Far East. We have therefore devoted our attention mainly to Europe, the British Dominions, South America and the United States of America.

2. On account of differences in local and national conditions, nutrition policies must vary in different areas. But the ultimate goal must be everywhere the same: to ensure that all sections of the population obtain an adequate diet. By an adequate diet we mean one which includes sufficient of the energy-bearing and protective foods for optimum health.

3. We have tried in the body of our report to show that the tendency towards better nutrition in the countries with which we have dealt is natural and strong; but that the movement is checked and obstructed at certain points, and requires to be directed and accelerated.

4. We have argued that food habits, at least in many parts of Western communities, have gradually been tending to change in the right direction; and have adduced statistical evidence to show that these communities, on the whole, are now consuming, in addition to the indispensable foods of high energy value, more milk and dairy products, more fruit and more vegetables than a generation ago.

5. This improvement in the general level of nutrition has resulted in part from a better understanding of dietary needs, in part from a general increase in income and prosperity and in ease of transport, and in part from improvements in the methods of production and in the distribution of agricultural products. It is impossible to differentiate clearly between the influence of agriculture on demand by

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\*Excerpts from the "Final Report of the Mixed Committee of the League of Nations," communicated to the Assembly, the Council, and the Members of the League, Geneva, Aug. 14, 1937.

the provision of cheaper and higher-quality food and the influence of enhanced demand on agriculture. Where the incentive has originated rather in increased demand, agriculture, as we have endeavoured to show, has, under the influence of remunerative prices, successfully adapted itself. The further changes which we may expect to result from the success of the present movement towards better nutrition must necessarily be gradual, and should, if wisely directed, be of great benefit to agriculture by increasing the demand for almost all classes of agricultural products.

6. The movement towards better nutrition has made considerable progress, but it has not gone nearly far enough. Poverty and ignorance remain formidable obstacles to progress; the disparity between food prices and incomes increases the difficulty experienced by the poorer sections of the community in obtaining an adequate supply of the proper foods. We have shown that, in countries of the most diverse economic structure and general level of consumption, appreciable sections of the population are, for one reason or another, failing to secure the food which is essential to their health and efficiency. The evidence that has been made available in recent years points to the conclusion that, as a result of insufficient purchasing power, or as a result of the imperfect distribution of resources between food and other objects of expenditure, or through ignorance of food values or carelessness and indifference, or as a result of the maintenance of food prices at levels involving hardships to large sections of the community, or other causes, millions of people in all parts of the globe are either suffering from inadequate physical development or from disease due to malnutrition or are living in a state of subnormal health which could be improved if they consumed more or different food. That this situation can exist in a world in which agricultural resources are so abundant and the arts of agriculture have been so improved that supply frequently tends to outstrip effective demand remains an outstanding challenge to constructive statemanship and international co-operation.

7. The movement towards better nutrition in the past has been largely the result of the unconscious and instinctive groping of men for a better and more abundant life. What is now required is the conscious direction of the natural tendency towards better nutrition. Such direction constitutes policy. Nutrition policy, if it is to be successful, must be directed towards achieving two distinct, though mutually dependent, aims. Its primary concern is with consumption: with bringing the foods which modern physiology has shown to be essential for health and physical development within the reach of all sections of the community. But, in addition, it must also concern itself with supply. Changes in demand involve changes in supply; increased demand, increased supply. Nutrition policy must take into account the necessity for facilitating the adaptation of agriculture and possibly of commerce to changes in demand and of increasing supply as demand expands. We discuss separately these two aspects of nutrition policy in the sections which follow.

#### B. METHODS OF IMPROVING NUTRITION

8. Conditions determining food production, distribution and consumption differ too widely to permit of detailed suggestions being

put forward for the improvement of nutrition equally appropriate for all countries. We must confine ourselves to enunciating certain general principles and to making specific suggestions of more limited applicability. We have already expressed our views concerning the general principles of policy that should be pursued in the recommendations contained in our interim report. These recommendations were adopted by the seventeenth Assembly and communicated, on its authority, to all Governments. In the light of our further studies on the problem of nutrition, we desire to reaffirm our belief in the general policy expressed in those recommendations. Such more specific suggestions as we wish to add in the present report cannot, for the reasons we have just indicated, so appropriately be summarised in the form of a series of recommendations. They require to be considered by each nation in the light of the evidence we adduce, and in the setting of the conditions we have described or of the conditions prevailing in each individual State. We hope, however, that the body of our report will be studied by all national authorities, and that the factors affecting nutrition which need further analysis will be considered in the light of national conditions. We further hope that the general principles and the suggestions which we set out in this chapter will be applied in each country.

### *Recognition of Nutrition as a National Problem*

9. For nutrition policy to be effective, the problem must be recognised as one of primary national importance. During the past half century, standards of sanitation and housing have undergone remarkable changes in certain parts of the world; conditions which are to-day regarded as intolerable were fifty years ago considered normal. These standards are reflected in the greater welfare of the people. The present generation is effecting a similar change in its standards of nutrition. But the importance and future benefits of these new standards of nutrition to health and general well-being are not yet sufficiently widely recognised. It lies with Governments, supported by enlightened public opinion, to take the lead. There is no country in which conditions could not be improved with more Government help and direction; there is no country in which further measures to awaken or stimulate public opinion are not imperatively required. If Governments play their parts in giving a lead to the movement, private agencies may be expected to follow with their distinctive contributions.

### *National Nutrition Committees*

10. In our interim report, we suggested that a national nutrition policy requires the guidance of some central authority with special responsibility in order to utilise to the best advantage the teachings of science, interpret them in the light of national conditions and suggest means for their practical application. In making this suggestion, we were especially influenced by the many-sidedness of the problems of nutrition and by the necessity for co-ordinating economic and social action with new physiological teachings.

11. We are now more than ever convinced of the necessity for bringing together scientists, economists, agricultural experts, consumers' representatives, teachers and administrators in National Nutrition Committees. If, as we hope, our own deliberations have been in some degree useful, it is largely due to the fact that the

Mixed Committee has grouped together persons of diverse experience who have viewed the problem of nutrition from different angles—whether of health, of labour, agriculture, economics and finance, social welfare, co-operation or administration. It is our firm conviction that through National Committees adequately representative of the various elements that go to constitute this complex problem the most useful progress can be made.

12. One of the most important tasks of National Committees is, in our opinion, to ascertain the prevailing food-consumption habits and nutritional status of all sections of the population. Our own conclusions are based upon sample surveys covering a limited range of families; more accurate and detailed investigations are required. We have been particularly impressed with the scarcity of reliable information regarding the food consumption of rural populations; the paucity of the data has, indeed, prevented us from dealing with the nutritional problems of this important section of the community in sufficient detail. Several National Committees have already taken steps to ascertain facts, quantitative and qualitative, about the diets of their people; and we hope that this will be done elsewhere.

13. A further aspect of the work of National Committees on which we would lay particular stress is the interpretation of the general rules of rational nutrition in the light of national conditions. These general rules are necessarily in terms of calories, proteins, vitamins, minerals, etc. It is an important function of the National Committees to translate these into terms of specific foods, having due regard to the alternative sources from which the different nutrients can be obtained, the consumption habits of the people, the character of national and local production, the prices of the various foods, etc.

14. Further, the question of the relationship between food prices and incomes, with which we have been able to deal only in very general terms, is clearly one which requires detailed examination in each country, with a view to ascertaining the point at which an equilibrium can be struck between the interests of the consumer, those of the domestic producer and the social and economic structure of the State. These few examples of the type of work which, in our opinion, can be appropriately carried out by National Nutrition Committees will serve to show how useful and extensive can be their activity.

15. We are convinced of the utility and importance of National Nutrition Committees for still another reason. Since our original recommendation in February 1936, such Committees have been established in a considerable number of countries. The representatives of some of these Committees, as well as of some which had been set up earlier, met at Geneva for an informal exchange of views and experiences in February 1937. We have had the advantage of hearing a detailed and interesting report on this meeting, and have been much impressed both by the amount and fruitfulness of the work being done today in different countries and by the value of the exchange of views which took place. We venture to recommend later in our report that the League should arrange at suitable intervals for further meetings of representatives of appropriate groups of National Committees in the future.

16. While stressing as strongly as we do the importance of National Nutrition Committees, we are fully conscious of the fact—indeed, we consider it fundamental—that the ultimate responsibility for the

nutrition and health policy of a nation must rest with that nation's Government. National Committees, aided where necessary by outside advice, can, however, exercise an important influence on policy, both directly through their influence on Governments and indirectly through their influence on public opinion. For the latter important influence to be operative, it is essential that publicity should be given to their reports and findings and that they should be able to initiate investigations, etc.

17. We have no desire to lay down a doctrine on the constitution and functions of National Committees; these must vary with differences in the administrative practice and traditions of each country. We urge, however, that the Committees be so constituted as to give them a maximum of influence. To this end, it may be suggested that they should be consulted on matters of economic, social and educational policy affecting food consumption, and that they should publish periodic reports on the state of nutrition and the aspects of nutrition policy to which they attach importance.

#### *Education.*

18. We have shown in Part III of our report that food-consumption levels depend primarily upon two factors—the amount of real income at the disposal of the family or individual, and the intelligent use of that income to meet food requirements.

19. Where income is adequate, the problem is one of education; but where resources fall below the limits of reasonable living standards, adequate nutrition cannot be secured even by the most scientific expenditure of those resources. Especially in the present decade, when in Western industrial countries alone millions of idle workers and their dependants are added to the population which, because of social, physical or mental handicap, is more or less permanently dependent on social assistance, the limits of educational efforts must be clearly recognised.

20. We have, however, shown that there is some scope for improvement in the dietary habits of even the lower income groups through educational means. Surveys conducted in more than one country have revealed that, in families spending the same amount of money per head on food, some secure adequate diets while others do not. A feature of nutrition policy should therefore invariably be the dissemination of nutritional information among public authorities, voluntary services administering social aid, school-teachers and others in a position to influence food habits. The first step must be to educate those responsible for education and the administration of social aid.

21. The information thus disseminated should set forth the minimum nutritional needs of different age-groups and should include instruction on alternative sources of the nutritive elements. Efforts should particularly be directed towards impressing upon public assistance authorities the ultimate costliness in ill-health and bad physique of inadequate food allowances.

22. It is further of importance to emphasise the relation of adequate shelter and clothing, fresh air, sunshine, exercise and living conditions generally to the measures of nutrition policy taken to develop the general health of the people. But proper feeding, especially in early life, remains the first objective. We would lay particular stress on

the desirability of close co-operation among the agencies interested in nutrition, in health generally, and in the administration of social aid.

23. Through whatever agency it may be disseminated, all nutritional information must be adapted to the habits and resources, not only of each country, but also of the particular groups by whom it is to be utilised in the individual home. The problems of rural populations are widely different from those of industrial workers. Education, if it is to be useful, must be practical, and it must cover all classes of the population—rural and urban, wage-earners and salaried classes. It should include information on alternative diets in terms of actual foods, on the preparation of diversified menus within limited income ranges. It should be devoted to arousing that interest in child and family welfare which, so far as incomes permit, will assure nutritionally adequate food consumption within such homes.

24. Moreover, arrangements should be made to inform all those working in the same field of successful local experiments for supplementing diet. We have in mind, for example, the distribution of certain foods at reduced prices to low-income groups, the organisation of garden allotments and the production or manufacture of foods on co-operative lines.

#### *Income Level and Distribution*

25. Capacity to purchase the foodstuffs needed for adequate nutrition is determined by the size of real income in relation to the needs of the persons dependent on that income. As we have shown in the body of our report, and as the study of the International Labour Office has pointed out, what is significant in this connection is not merely the average level of incomes, but also their distribution. Although, for example, the average level of individual incomes in industrialised countries is relatively high, large sections of the population are so poor, owing to the inequality of the distribution of the national income, that they are unable to purchase the requirements of a proper diet. Studies of food consumption at different income levels prove that malnutrition is most prevalent amongst those groups of the population, urban or rural, whose incomes per head are lowest.

26. The lower incomes may rise as a result of their recipients either sharing proportionately in a general increase in the national income or obtaining a greater share in existing or increased totals. Although it is unnecessary to stress the desirability of adding to the total sum of goods and services available for consumption, it is worth recalling that the problem is not solely one of distribution. But at any given moment the possibility of rapid progress by the method of increasing the total resources available is necessarily limited. Measures designed to protect or increase the share at the disposal of the lower-income groups have therefore been adopted in many countries.

27. It is not our intention to examine in any detail the methods which may be adopted to raise the level of incomes in such lower-income groups; but reference may be made to certain general principles that have been widely followed in seeking a solution to this problem. Since incomes in these groups consist in the main of earnings from employment, efforts have been made to safeguard these earnings to the fullest extent. Machinery for the fixing of minimum wages and legislation providing for the full and regular payment of the wages fixed or agreed on have, where adopted, performed an important

function in securing to wage-earners an adequate living. For those whose incomes from employment are interrupted, whether as a result of illness or accident, or in consequence of involuntary unemployment, systems of social insurance have been adopted in many countries. Family allowances or other supplementary measures have improved the position of large families which, as we have shown, are in particular danger of malnutrition. Where such systems are lacking or have proved inadequate, Governments have in recent years afforded direct relief in various forms, especially to the unemployed. Were it not for such measures, the nutritional state of large sections of the populations of industrial States would be even more seriously defective than it is today. We desire therefore to emphasise the great importance of the extension of such social legislation for the protection and improvement of the health of the people.

### *Social Provision.*

28. But the problem of malnutrition is urgent. Each generation begets its successor and passes on its heritage of disease and structural malformation. Sufficient security against the risks of malnutrition is not achieved in any country. For this reason, many Governments—and, indeed, precisely those Governments which have done most to promote social legislation—have adopted measures of direct assistance in order to supplement the diets of the more exposed sections of the community.

29. Such measures have been very properly directed especially to preventing malnutrition in childhood. The damage done by faulty feeding in the pre-natal period, in childhood and in adolescence cannot be repaired later in life. In our interim report, we stated that the health of the child was the kernel of the problem; we reiterate and emphasise this view.

30. We strongly urge, therefore, that the efforts already being made to improve nutrition by public and private health and welfare authorities in maternity and child-welfare centres, in schools and elsewhere should be encouraged and strengthened by all possible means.

31. Of special importance is the adequate consumption of milk by infants, children, adolescents and expectant and nursing mothers. At several points of our report we have referred to the high nutritive properties of this food. Its value is unique; it is indispensable; more than any other food it contains the elements essential for life and growth. It has no satisfactory substitute and it is in itself the nearest approach we possess to a complete food. In our opinion, one of the most important immediate practical steps that can be taken, and has in certain cases already been taken, by Governments to raise the standard of health of the growing generation is to arrange for the free or cheap distribution of safe milk to children of school and pre-school age. The danger of malnutrition exists for children of most income-groups. We have shown that, where there are many children in the family, the milk consumption per head tends to be low, even when the family income, and income per head, is relatively high. These facts should be borne in mind when schemes for the social provision of milk for school-children, or for initiating an educational campaign, are under consideration.

32. We refer below to the important part which school meals play in nutrition in childhood. Here we wish to point out that schemes of

social provision have been directed, not only to ensuring that the nutritional requirements of children should be more adequately covered, but have, in certain cases, also taken account of the regular need for the addition of protective or other foods to the diet of certain particularly exposed sections of the adult community. In addition to such permanent provision, we would draw attention to the measures adopted in certain countries for the distribution to necessitous families of surplus supplies of food products.

### *School Meals*

33. We have already, in our interim report, referred to the importance of adequate nutrition during the school years as well as in early childhood. We pointed out that, while compulsory education had been generally adopted throughout the civilised world, large numbers of school-children were not mentally or physically capable of profiting by it. We therefore put the question whether, as a corollary to the provision of educational facilities, steps should not also be taken to ensure that the nutritional needs of such children were fully satisfied, so that they would be more physically and mentally fitted to benefit from the opportunities afforded them.

34. Conditions affecting the nutrition of school-children differ so widely from one part of the world to another that it is not possible to make detailed recommendations of general application. We wish, however, to draw special attention to the fact that in several countries the diet of school-children is being supplemented by the regular provision of free or cheap meals at schools. The "Oslo breakfast" is a well-known example: this meal consists of uncooked protective foods and is served to the children before the day's work. The cost of this form of supplementary feeding for children is relatively low, and the results appear to be very satisfactory. We are of opinion that, in countries and communities where action by the central or local authorities appears to be called for, careful consideration should be given to this method of improving the nutrition of school-children. Wherever meals are provided for children at school, we wish to emphasize the importance of their being prepared in accordance with the most recent teachings of nutritional science.

35. Our attention has been drawn to the fact that, even in certain countries where most progress has been made in spreading knowledge of the correct principles of nutrition, the meals regularly provided to children attending private boarding-school are sometimes seriously defective: in some instances, milk and fresh fruit are not included (or only in quite inadequate amounts) as part of the ordinary dietary, but are treated as "extras" for which supplementary payment is required.

We believe that, in boarding-schools and similar institutions, the findings of modern science should be used in determining the diets and, that where this has not already been done, careful enquiry should be made into the adequacy of the diet at present given in such institutions.

### *Dietary Policies in Public and Private Provision of Food Needs.*

36. Every modern State is directly responsible for the feeding of large numbers of people, whether in schools, in hospitals, in charitable and benevolent institutions, in relief centres, or in various

State services, such as the army and navy. Moreover, there is a growing tendency for private industries to develop canteens and restaurants where the workers take or supplement their midday meal. We hope that, where public and private authorities are responsible for the provision of meals, they will ensure that diets adequate in all nutrient constituents are provided.

37. We have up to this point concentrated our attention on the consumption side of the nutrition question. We must now turn to production and distribution. Questions of food supply and price are important from two points of view: first, from the point of view of the producer of food, whose standard of living is largely dependent on the prices he obtains; and, second, from the point of view of the purchaser of food, whose purchasing power is dependent on the ratio of food (and other) prices to money income. It is convenient to consider these two aspects of the problem jointly in the next section.

### C. THE ADAPTATION OF AGRICULTURE

38. Improved nutrition must immediately or in a short lapse of time prove of general benefit to agriculture and fishing. Better nutrition means an increase in the demand for foodstuffs; and an increase in the demand for foodstuffs implies greater agricultural activity. Certain adjustments in agricultural production will no doubt be required; adjustments are always required whenever social progress occurs. It would, however, be a mistake to exaggerate the magnitude of these adjustments. The change in dietary habits to which we look forward will be steady and gradual: it will not occur in a day. Moreover, the majority of the protective foodstuffs (milk, vegetables, etc.) are of a perishable character, so that they must necessarily be produced not far from their place of consumption. As these foods come to play a more prominent part in national diets, therefore, their production will offer a natural stimulus and protection to domestic agriculture. But the energy-bearing foods still remain, and will remain, the basis of the diet: they play an essential role in human nutrition. We have dealt in this report only with European and certain other countries of Western civilisation. If the inadequacy of the diet of the lower-income groups in these countries, even as regards energy-bearing foods, be considered, it is clear that an improvement in the nutrition of these classes should benefit the arable farmer; if the world problem of nutrition be viewed as a whole, the enormous scope for increase in the consumption and production of cereals and certain other foodstuffs valued chiefly for their energy-yielding qualities becomes at once apparent.

While national agricultural systems will thus benefit by the growth in the demand particularly for the more perishable protective foods, countries producing for export will benefit, as the primary needs of the poorer classes for energy-producing and less perishable protective foods are more adequately satisfied.

39. We have argued that agriculture has adapted itself successfully—albeit not without some difficulty—during the past twenty-five years to changes in the structure of demand, in particular where increased demand has expressed itself in higher prices. The adaptation required in the future will not involve a rapid transformation of the whole structure of agricultural systems, but merely the gradual change in

and expansion of production to meet the new requirements. Policy must be directed towards helping the orderly expansion of agriculture and its adaptation to the changing demand.

40. All adaptation and expansion, whether in industry and commerce or in agriculture, requires capital; but in most countries industry and commerce have far readier access to capital to assist them in their adjustments than has agriculture. In considering the agricultural aspects of the nutrition problem, we desire, therefore, to emphasize at the outset the need for an improvement in agricultural credit. We have not been able to make an exhaustive study of the questions of agricultural assurance and credit. The question of long-term agricultural credit is one which the Financial Organisation of the League has already considered, and to which the Financial Committee has reverted in its last report. Furthermore, the International Institute of Agriculture has concerned itself in the past, and will, we understand, concern itself still further in the future, with the problem of agricultural indebtedness, insurance and credit, especially medium- and short-term credit. We hope that the appropriate national authorities will, in framing their general nutrition policy, give weight to the necessity for developing agricultural credit institutions in countries where adequate machinery does not already exist.

41. We also attach great importance to the encouragement and development of agricultural co-operation. The services which co-operation has rendered to producers and consumers alike are well known. Adjustments which are difficult for an individual producer may be facilitated by the joint action of many producers. Improvements in methods, the joint use of machinery, access to scientific knowledge, information regarding market conditions, the rational organisation of marketing—these are only a few of the benefits which have been derived from agricultural co-operative societies. These organisations should be strengthened and developed in countries where they already exist and established in countries where they do not exist.

42. The State and agricultural organisations can help the adaptation of agriculture through the education of farmers. We have in mind not only the spread of knowledge about agricultural methods and processes—an important element to which we refer below—but also the dissemination of information regarding the general trends in the demand for foods which are likely to result from better nutrition. By educating agriculturists to the importance of increasing, where possible, their output of protective foods, the State can contribute at once to an improvement in agriculture itself (through, for example, the enriching effect of animal husbandry on the soil) and to an improvement in nutrition. We are also convinced of the necessity for teaching farmers, so far as soil and climate allow, to grow more of the protective foods for their own use.

43. The adaptation of agriculture to changed requirements can, however, be impeded as well as facilitated by State action. Thus tariffs and other forms of trade restriction may, if excessive, so affect prices as to draw farmers into the production of foods for which demand is shrinking and consequently prevent them from expanding their production of foods the consumption of which it would be desirable to increase. Subsidies to consumption, on the other hand, may

provide equally valuable assistance to agriculture and at the same time serve to promote, rather than impede, the necessary adjustments. Protection to the farmer can often be given most effectively, and without prejudice to nutritional standards, by improving methods of agricultural production and distribution—by keeping the farmer currently informed of the latest discoveries of science and of market developments, by combating animal disease, by facilitating the purchase of better seed, by watching over fodder and fertiliser prices, by improving transport facilities, by strengthening the agricultural credit system, and by stimulating national consumption. Improvements in agricultural methods result in high yields per acre, while measures of artificial stimulation frequently bring under cultivation inferior land and may result in lower yields.

44. An effective method by which Governments or private bodies may encourage improved efficiency in agriculture is through the development of schemes for recording output. The value of such schemes may be enhanced by combining them with local or national competitions, which serve to arouse the interest of individual farmers and result in a rapid spread of information regarding new and successful technical methods and in their early and general application.

45. In view of the importance attached by nutritional experts to an increased consumption of fish and fish-liver oils, the development and preservation of sea fisheries by national and international action would constitute a valuable contribution to nutrition policy.

46. The orientation which should be given to commercial policy in the light of nutritional requirements is a very complex problem. Many interests are involved, and the most careful analysis and study are required before action can be taken. We have tried to throw some light on the problem in our remarks on the elasticity of demand. It should be clearly understood that the demand for protective foods cannot be greatly increased if the price of the energy-bearing foods is high in relation to incomes. Indeed, the demand for high-quality protective foods may, in such circumstances, be considerably increased by reducing the prices of the energy-producing foods. This problem requires most careful study in each country, for the solution which is correct in, for instance, a rich country or one where natural conditions favour diversified farming may well be wrong for a poor country or where natural conditions are unfavourable.

47. If steps are taken to facilitate changes in agricultural production, European as well as non-European agriculture will derive great benefit from the movement towards better nutrition. Not the least of these benefits will be the improvement in the nutrition of the agriculturist himself. We have reported on the paradoxical fact that the producer of food in Europe is not seldom badly nourished. In certain countries, this must be ascribed in part to the fact that he has been encouraged to concentrate his productive resources on one or two crops. Now, better nutrition always means more diversified nutrition. This diversification of demand implies a reciprocal diversification of agriculture, especially more dairy and fruit farming and more vegetable-growing. Under the technical conditions of cultivation which prevail in Europe, diversification is likely in many cases, though not of course always, to affect the individual farm as well as national agricultural systems. In short, as the movement towards better nutrition spreads

and grows, individual agriculturists will be encouraged to produce more of the valuable foods mentioned above, and their own state of nutrition will in consequence rise. In this connection, we may repeat that we attach special importance to the education of the small farmer to the nutritive value of dairy produce, vegetables and fruits, so that, whilst directing his chief efforts to production for sale, he will at the same time realise the importance of providing, where conditions allow, foods of high nutritive value for consumption in his own household.

#### *Food Supplies and Food Prices.*

48. Farmers and consumers alike frequently complain of the wide discrepancy between the selling price of foodstuffs at the farm and their price at retail. This margin is composed of transport and distribution costs and taxes. It is clearly not possible for us to form an opinion concerning the justification of the complaints to which we have referred; but we would draw attention to the fact that certain authorities have been able to reduce the margin of cost as a result of the careful scrutiny of its component parts and the adoption of appropriate measures whenever the cost of transport and distribution proved excessive.

49. In view of the perishable nature of many protective foodstuffs, special attention has been paid in certain countries—rightly, in our opinion—to improving refrigeration and storage facilities and to the organisation of quick and adequate transport at low rates.

50. At the retail stage of distribution, the problem of margins is particularly complicated and difficult to analyse. In many countries, special committees have from time to time been set up to investigate it; but their findings have more often than not been inconclusive. It is, indeed, difficult to assess the cost or value of the services with which some retailers of food provide their customers—cleanliness, variety, attractiveness of presentation, credit, delivery. There are grounds for believing, however, that the volume of turnover might be increased in certain areas, were the retail margin per unit reduced, without any loss of profit to the retailer.

51. In many countries, the consumers' co-operative movement has resulted in an appreciable reduction in margins, both to its own customers and—through its competition—to those of private retail establishments. Elsewhere non-credit shops, where the consumer does not pay for delivery which he does not require, nor for bad debts incurred by retailers on sales to their customers, have resulted in lower prices. In most countries on the Continent of Europe, special markets, where the grower of fruit or vegetables keeps his own stall, help to eliminate or reduce both overhead costs and excessive middlemen's profits.

52. A major factor affecting the prices of foodstuffs to the consumer in some industrial States is constituted by taxes on imports. Such taxes are imposed in most countries mainly to protect agriculture—revenue taxes with their corresponding excise being generally limited in number. It is for each Government to weigh for itself the claims of agriculture for protection and of the consumer for cheap food. It is not sufficient that the food supplied should be normally plentiful; its

supply must also be assured. The problem of agricultural commercial policy is thus one of considerable complexity.

53. We have given in the body of our report examples of comparative prices of certain foodstuffs in different countries. After all allowance is made for differences in local qualities, no one can study these tables without being struck by the very wide discrepancy in prices that exists to-day even between neighbouring States. Governments of all countries with disproportionately high prices of any valuable food should, we suggest, consider very carefully whether there are imperative reasons for depriving large sections of the community, whether they be wage-earners or others with relatively low incomes, of the advantages of cheap food which are enjoyed by other countries.

54. While each country must decide on its own commercial policy, there is one principle the universal acceptance of which we would urge—namely, that adequate nutrition be one of the factors determining such policy. The advice of nutrition and social-economic experts should, in our opinion, be sought whenever a question of agricultural or commercial policy arises. The National Nutrition Committees which we have recommended would appear to provide a useful channel through which this advice might be obtained.

#### D. FUTURE WORKS OF THE LEAGUE OF NATIONS IN NUTRITION

55. During the months which have elapsed since the Assembly of the League of Nations decided, in September 1935, to appoint a Committee to submit a general report "on the whole question of nutrition, in its health and economic aspects", there have been a remarkable growth of public interest in nutrition and a greatly increased realisation of its importance.

56. The problem of nutrition is, indeed, eminently suitable for international collaboration and consultation. As, however, conditions vary so radically in different parts of the world, collaboration might well at the present stage take place within continental or regional groups, where the problems are similar. For this reason, we are pleased to be able to state that the Health Organisation of the League of Nations has convened for August 1937 an Inter-Governmental Conference on Rural Hygiene in Far-Eastern Countries at which a special commission on nutrition, including some of the foremost experts of Asiatic countries, will be constituted. We are also glad to note that the seventeenth Assembly of the League of Nations decided on the convocation of an Inter-Governmental Conference on Rural Hygiene in Latin-American Countries, at which, we understand, nutrition questions will be discussed.

57. In addition to preparing these consultations, the Health Organisation will, as we have observed in the introductory chapter, continue its useful work of acting as an international clearing-house of information on nutritional questions. Moreover, having already laid down an agreed international scale of the calorie requirements of the two sexes at different ages of life, it is now proceeding to consultations with a view to setting up international standards of requirements of vitamins, minerals and other nutrients. It will also conduct and stimulate research along other important lines.

58. We have been informed also that, in accordance with the wish expressed by the Fifth Committee of the seventeenth Assembly, the League of Nations Advisory Committee on Social Questions plans, in collaboration with other competent bodies, to pay special attention to the social aspects of malnutrition among children (whether or not reared for in their own families) in both urban and rural areas. We welcome this further evidence that the League will continue and extend its activity in this field.

59. At our first meeting, we recommended the creation of National Nutrition Committees to originate and co-ordinate policy in this field. As a result, committees have been set up in several countries and we have been informed that they are in process of being established in others. A first meeting of the representatives of some of these committees was held under the auspices of the League of Nations early this year. As we have already stated, the exchange of views which took place was particularly fruitful. Those participating acquired information regarding the methods of nutritional investigation and education used in other countries which, in their opinion, will prove to be of great service to them in dealing with their own national problems. It therefore appears to us desirable that periodic meetings should be held, under the auspices of the League of Nations, of the representatives of the committees of countries whose nutrition problems are broadly similar in character.

60. We have already referred to the contribution which the competent international organisations can make and are making to the study of various aspects of the nutrition problem; there is, in our view, scope for further fruitful collaboration between these organisations and the National Nutrition Committees. We desire here to draw attention to a few additional possibilities of effective collaboration. The first relates to the methods used in ascertaining the food-consumption habits of the various populations; we attach great importance to the improvement of these methods and to the securing of a higher degree of international uniformity. The second relates to the collection of other data required by the National Nutrition Committees in order to develop a national nutrition policy. Such a policy must be based, not on generalities, but on specific foods, and must take account of the food-consumption habits and economic resources of the various peoples; it requires abundant information regarding, not only existing food-consumption habits, but also the nutritive values of different foods, nutritional requirements and food prices. It is our view that the competent organs of the League of Nations, in collaboration with the International Labour Office and the International Institute of Agriculture, could make a valuable contribution to the task of the National Committees by informing them of the methods successfully employed in the collection and analysis of this information. Finally, we would express the hope that, if the National Nutrition Committees publish periodic surveys of nutrition policy in their respective countries, the competent organs of the League of Nations will, from time to time, incorporate the information contained in these reports and other pertinent material from the several countries in a review designed to show the progress of nutrition policy in the various parts of the world.

In presenting this final report on the economic and agricultural aspects of the nutrition problem, we have discharged the duty laid upon us by the sixteenth and seventeenth Assemblies.

We have not attempted to provide ready-made solutions for a problem which is infinitely complex. As a result of our studies and discussions, we have been able to submit certain general principles for the consideration of Governments. The facts that we have adduced in this, our final report, confirm and, we venture to believe, substantiate the recommendations we put forward in our interim report; these recommendations are annexed hereto.

The malnutrition which exists in all countries is at once a challenge and an opportunity: a challenge to men's consciences and an opportunity to eradicate a social evil by methods which will increase economic prosperity.

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#### RECOMMENDATIONS PUT FORWARD BY THE MIXED COMMITTEE ON THE PROBLEM OF NUTRITION IN ITS INTERIM REPORT

The Mixed Committee, while recognising the importance of the economic aspects of the nutrition problem, the fuller treatment of which it desires to reserve for a later report, submits to the Assembly the following preliminary recommendations, in the hope that, if they are approved by the Assembly and accepted by Governments, they will make a real contribution to the improvement of nutrition.

In order to promote endeavours to secure an adequate provision for all their people of necessary and, more especially, of protective foods, the Mixed Committee suggests to the Assembly to recommend that Governments should:

(1) Encourage and support in every possible way the further scientific study of nutrition problems with a view to ascertaining the optimum nutrition for each country, due consideration being given to differences of national economic structure, of climate and of available sources of supply;

(2) Take all appropriate measures to ensure that the latest information about nutrition is included in the teaching of medical students and that medical practitioners, medical officers of health, district nurses, etc., have such information constantly brought to their notice;

(3) Conduct a vigorous policy of education on popular nutrition for the instruction of the general public in this subject;

(4) Support the Health Organisation of the League of Nations, not only in the work of its technical committees, but also in its endeavours in the field of public health and preventive medicine to promote the application of modern nutritional science for the benefit of the different age and occupational groups of the population;

(5) Facilitate and promote international co-operation in education and propaganda and in the exchange of information, and, in particular, encourage all appropriate international organisations to lend their help;

(6) Consider what steps should be taken, whether at the public charge or otherwise, to meet the nutritional needs of the lower-income sections of the community, and, in particular, the means by which they might ensure that adequate supply of food, especially

safe milk, should be made available for expectant and nursing mothers, infants, children and adolescents;

(7) Consider what further steps might be taken to meet the nutritional needs of adults, unemployed or otherwise in distress.

(8) With a view to giving the fullest possible effect to national propaganda and educational efforts for the improvement of popular nutrition:

Take all possible steps to make food supplies, and especially protective foods, so far as possible, available at prices within the reach of all classes of the community, while at the same time safeguarding the interests of the producers;

Take steps to improve and cheapen the marketing and distribution of foodstuffs in both industrial and rural districts, and, with these objects in view:

Encourage collaboration between co-operative and other forms of producers' and consumers' organisations;

(9) With a view to assuring purity of food and in the interest of public health, promote, so far as possible, the international unification of the technical analysis and control of foodstuffs, and of the control of preparations sold primarily for their vitamin content on the basis of the work being conducted on standardisation of biological products;

(10) Set up standards of reference and specifications for grading foods of all kinds according to quality;

(11) Consider whether any modification of their general economic and commercial policy is desirable in order to ensure adequate supplies of foodstuffs, and, in particular, to assist the reorientation of agricultural production necessary to satisfy the requirements of sound nutrition;

(12) Co-ordinate the work done by different authorities which affects the nutrition of the people and, in the absence of a central authority, set up a special body for this purpose, in order to secure unity of policy and direction;

(13) In order, *inter alia*, to ascertain how far existing national dietaries fall short of the new standards of nutrition, collect information on food consumption by families of different occupational groups at different income levels as well as on the distribution of the population by family income;

(14) Consider to what extent and by what means their national statistics of the supply and consumption of individual foods might be improved;

(15) Assist the International Institute of Agriculture in collecting information regarding supply, national consumption and prices of foodstuffs.

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Furthermore, the Mixed Committee invites the Assembly to recommend the Governments concerned to give their full support to the Health Organisation in its enquiries into the widespread malnutrition which exists in the tropics and certain Far-Eastern countries.

## APPENDIX FF

### AMERICAN FARMERS AND THE UNITED NATIONS CONFERENCE ON FOOD AND AGRICULTURE <sup>1</sup>

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#### NATIONAL NUTRITION ORGANIZATIONS

Whereas:

1. A sound food and nutrition policy must be adopted by each government if national diets are to be progressively improved, specific deficiency diseases eliminated, and good health achieved;

2. Such a policy requires the guidance of a central authority with special competence and responsibility to interpret the science of nutrition in the light of national conditions and to propose to the appropriate authorities practical means for extending its benefits to all sections of society:

The United Nations Conference on Food and Agriculture recommends:

1. That the governments and authorities here represented:

(a) Undertake to establish national nutrition organizations, if such do not now exist, entrusted with the responsibility of ascertaining food-consumption habits and the nutritional status of different sections of the population; such organizations to be composed of authorities in health, nutrition, economics, and agriculture, together with administrators and consumers' representatives, etc.; to be provided with adequate funds and facilities for the efficient conduct of their work; and to have the authority to bring their recommendations to the attention of the public and to those agencies of government which deal with agriculture and the framing of economic and social policy;

(b) Re-examine and, if necessary, reorganize existing agencies and review legislation concerned with health, agriculture, and nutrition to the end that food and nutrition policies may be efficiently carried out.

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<sup>1</sup> From the U.S. Department of Agriculture, Bureau of Agricultural Economics, June 1943.

## APPENDIX GG

### MEASURES BY INDIVIDUAL COUNTRIES TO STIMULATE PRODUCTION CHANGES FOR BETTER NUTRITION <sup>1</sup>

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Many of the production changes needed for more adequate nutrition can be directed and speeded by actions taken by individual countries. Such action will require that each country determine its nutrition needs and survey its regions of like agricultural conditions as suggested in previous pages, and in general direct the changes needed in each according to principles such as those already outlined. More definite objectives may be established by working out national and regional goals of farm production to be achieved in stated periods of time, and by using various measures to stimulate farmers to adapt their production to the goals so established.

#### SETTING PRODUCTION GOALS AND DEVELOPING PROGRAMS FOR THEIR ATTAINMENT

Most of the pre-war national programs for redirecting farm production were geared to economic policies aimed at improving prices of individual commodities, strengthening the nation's export position, and providing for national self-sufficiency. Much less attention was given to the need for better diets. The special wartime food programs provide actual experience in guiding production in the direction of maximum contribution to food needs. Both provide useful experience for planning and achieving production programs specifically concerned with nutritional needs.

#### SETTING NATIONAL PRODUCTION GOALS

The goals, or objectives for national food production, should be determined on the basis both of the nutritional needs to be served and of the capacity of the nation for economical food production.

Several countries already have set such goals. Great Britain's wartime food program is based on a survey of agricultural land and an appraisal of essential food needs. It encourages production of commodities that supply the largest amounts of food nutrients and save the greatest amount of shipping space.

In the United States, wartime production goals are based on food needs for military, lend-lease, and civilian uses, and on farm production capacity by producing areas. Emphasis is shifting to foods which supply the greatest amount of the needed food nutrients per unit of productive resource.

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<sup>1</sup> Excerpts from a "Memorandum on Measures for Redirecting Production Toward More Needed Commodities and for Shifting from Commodities in Surplus," by the Delegation of the United States of America at the United Nations Conference on Food and Agriculture, Hot Springs, Va., May 18, 1943.

Agriculture in the Soviet Union is oriented to the general national production plan. Its detailed agricultural plans emphasize regional agricultural specialization and specify crop acreages for different regions, and the quantities of farm products to be delivered to the state.

(In the pre-war period production adjustments—related as previously observed primarily to national self-sufficiency, to the export situation, or to price control on export products—dealt with specific products. In the Balkan countries the acreages of sugar beets established were based on national consumption. Cuba controlled the production of sugar cane through allotment of grinding quotas to individual mills. Programs of this type often emphasized land reclamation as well as increased productivity of land already in use.)

## APPENDIX III

### COORDINATION OF FEDERAL NUTRITION PROGRAMS\*

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#### PLAN OF THIS REPORT

This report records the findings and recommendations of a survey of nutrition programs and organization in Federal agencies, made to assist the Budget Officer and the Chief of the Nutrition Programs Branch of the War Food Administration at their request. The survey was made by the Bureau of the Budget with the cooperation of the agencies involved. Over 40 individuals contributed information and suggestions in Washington, and through the facilities of the Bureau's Field Service, more than 130 in the field (Illinois, Colorado, California and Texas).

The question explored in this survey was what sort of nutrition work the Federal Government should undertake on a long-term basis, and how that work should be organized. Expanding pre-war plans for raising national nutritional levels, the Federal war nutrition program has brought together the several public and private agencies concerned with nutrition at the Federal, state, and local levels of government, and it has attempted to stimulate and link together the nutrition work of these governmental levels. A variety of methods and techniques have been developed in the war program. This survey attempted to ascertain the administrative accomplishments of the program which should be conserved for the future, and at the same time it attempted to segregate any phases of the program suited only for wartime conditions.

This report first describes the nutrition activities of Federal agencies, next describes how these activities have been coordinated to form the basis for the wartime nutrition program, and then summarizes the essential elements in long-term arrangements for administering government nutrition activities, including detailed analysis of several important factors influencing such long-term arrangements.

#### SUMMARY OF FINDINGS AND RECOMMENDATIONS

1. Many Federal bureaus and offices have legislative authorization for health, welfare, and education programs which include one phase or another of human nutrition: some programs include research in nutrition, some include health education, others provide health and welfare services of one sort or another to American people. Most of these activities have been going on for many years. Only in the "national defense" and war periods, however, have successful efforts

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\*Prepared by the Bureau of the Budget, Division of Administrative Management, May 1945.

been made to coordinate the nutrition program planning of these bureaus and offices. The wartime experience indicates such coordination can be effective in strengthening the bureaus and offices. *Arrangements should be made for continuing that coordination of Federal agencies on a long-term basis.*

2. The wartime nutrition program has also included Federal sponsorship of state and local activities designed to raise American nutritional standards and levels. For example, Federal nutritionists have been assigned to work under the direction of state nutrition committees. These committees have been made up of representatives of both public and private organizations. The wartime nutrition program has found such committees useful to coordinate state agencies, especially those participating in Federal-state health and education programs, financed by grants-in-aid, and to keep up interest of various private groups in raising nutritional levels. The war program has also demonstrated the necessity for an individual to be designated to continuously spark plug such committees. However, this wartime program rests on wartime executive order authority and no legislative authorization has been found, which would permit, for example, continued Federal employment of full-time secretaries for State Nutrition Committees. *On the other hand, the several Federal agencies interested in the effectiveness of the Federal-state health and education programs, ought to encourage the development of state interagency coordinating committees. It does not appear that new Federal legislation would be needed to accomplish this.*

3. The Executive order (as amended) authorizing the war nutrition program specifically assigned to the War Food Administrator responsibility for coordinating the nutrition programs of the several bureaus and offices, some in the Department of Agriculture, some in Labor, some in the Federal Security Agency, and others scattered through a large number of departments. This wartime designation was useful to insure moving rapidly and to assign specific leadership for the work with the states and communities. *With the expiration of this war order, the need for coordinating the work of the bureaus and offices will remain. Peacetime responsibility for leadership in this work should be clearly assigned by Executive action. As long as war food shortages continue, this responsibility should remain with the War Food Administrator; thereafter, it should be assigned to the Federal Security Administrator.*

4. The activities of the several Federal bureaus and offices relating to nutrition have been coordinated during the war period by a Federal interagency committee, made up of representatives of each of the Federal agencies having field programs. *This basis for coordination has long-term possibilities and should be retained.* This committee ought to contribute to improved program planning within the bureaus by keeping them mutually informed, by discussion of trends and needs, and by concerted efforts wherever necessary.

5. *This interagency committee should form several subcommittees.* For example, subcommittees might be set up on nutrition Educational Materials, Evaluation of State and Local Programs, Nutrition Research, Community Leadership Method, etc. The subcommittees might be made up of representatives of various public and private organizations active in the field of the subcommittees. These sub-

committees could prepare materials and recommendations for the main committee, which would in turn recommend to the several bureaus and offices represented on the committee.

6. *The twenty-three member Nutrition Advisory Committee was useful in the early months of the war nutrition program, but has become inactive and should be dissolved.* Its chief use now appears to be its service as a device for keeping the twenty-three agencies informed about new developments. Agencies active in the subject matter fields of the recommended new subcommittees could be represented on them. And a periodic informational bulletin should be distributed.

7. The activities of the Federal-state programs related to nutrition have achieved a measure of coordination at the state level through the state nutrition committees. *This state agency coordination is desirable and ought to be continued, probably by a state interagency coordinating committee made up of representatives of the appropriate state agencies.* Naturally the actual establishment of such committees would rest on the discretion of the states.

8. *These state committees could utilize subcommittees in a manner similar to that suggested for the Federal interagency committee, and could invite representatives of private organizations and others to participate in the work of these subcommittees.* This arrangement might prove to be of special usefulness at the state level, to provide a means for continuing the participation and support of the active private groups. This type of organization would place the leadership squarely on the state government agencies.

9. The wartime experience has demonstrated the importance of having an individual specially designated to sparkplug committee work. *It would be desirable for the state agencies to designate an individual to serve as secretary or staff assistant to this state inter-agency committee.*

10. At the community level, too, the war nutrition program has organized nutrition committees. These have been made up of public county and community agency representatives, and private individuals. The participation of private individuals in the community nutrition programs appears to have been particularly valuable. *No specific recommendation is made in this report concerning the long-term nutrition organization in the communities of the country. However, it is urged that so far as the Federal-state activities involving nutrition are concerned, the Federal bureaus and offices encourage continued experimentation by the state agencies with various methods for developing community programs designed to raise nutritional levels.* The importance of getting local citizens to organize themselves for this purpose has been illustrated in the war program.

*If this work requires a new program beyond the work already authorized by existing legislation, then, of course, new legislative authorization must be sought.*

11. Some suitable arrangement is apparently needed under which national food industry advertisers can submit their advertising, preferably on a voluntary basis, to a central point in the Federal Government for clearance. Such clearance would operate as a deterrent to making false claims. A clearance system has grown up during the war, and it is said that reputable food industry people would like it to continue.

12. The services of the National Research Council's Food and Nutrition Board and Committee on Food Habits have been valuable under war conditions, but the Federal bureaus and offices will not require continuing services. They should contract for NRC services, as needed, on a specific project by project basis.

### NUTRITION WORK IN FEDERAL AGENCIES

This section of the report describes the regular peacetime nutrition programs of Federal agencies. These programs have been the basis for the war program, and must also be the basis for the long term nutrition program.

The work of several Federal agencies is related to research and education in nutrition. No agency is concerned solely with nutrition, nor even with nutrition as one among several independent programs. In each agency nutrition is treated as an element in a broader program. For example, the Office of Education is concerned with the whole field of vocational education, and nutrition education forms a part of home economics or family life education work. The U.S. Public Health Service administers, through State Health Departments, a program of health education, and nutrition education is a part of that program. Each agency is organized for a different purpose, and the approach of each to nutrition is naturally consistent with the basic purpose.

These federally assisted state and local educational programs instruct individuals in the more effective conduct of their daily affairs toward the end of better health and better social adjustment. The application of this instruction, including nutrition education, must come through a combination of individual and group action: individual decision to change personal habits, and group decision to change whatever social conditions may constitute obstacles to attaining the higher living levels sought by the individual.

Wherever local community action is required to make individual decision feasible two possible approaches are said to be available to Federal and state agencies; to stand aside and let the local demand for consultative assistance develop "naturally," without any outside interference and without any prodding from professionally trained doctors, engineers; or to work indirectly to bring the leadership of the professionally trained people to bear on the community. The latter approach will probably get results quicker, provided the techniques developed for stimulating local leadership are sufficiently democratic that the people of the community are doing the job themselves and are not having something imposed on them. All of the Federal agencies concerned with application of nutrition education are aware of the second approach. These agencies already have valuable experience and are continuing to refine the community organization techniques which they have learned are successful in their programs. However, there is very limited systematized experimentation with, or exchange of information concerning, community leadership techniques among the agencies, with the result that research in this field seems to be proceeding much more slowly and to be less productive of valuable results than if some interagency coordination had been worked out.

Following is a brief summary of the work being carried on in the Federal agencies whose programs include one aspect or another of nutrition. These summary statements are designed merely to identify the type of program and the organization which exists to administer it. There are two groups of agencies: those with programs that deal directly or indirectly with people, and those with programs that do not. The agencies in the second group seem to be interested in one or another phase of nutrition research and in keeping up to date with current developments in human nutrition. This group of agencies is listed in Appendix 1. Each of these 23 agencies is represented on the existing Interdepartmental Nutrition Coordinating Committee.

The other group of agencies have their own field programs, largely educational in nature, or assist State and local field programs which contribute more or less directly to improving American food consumption habits. Although the Red Cross is not a Federal administrative agency, it has participated in the war nutrition program, and is included in this group. This second group of agencies is:

American Red Cross.

Children's Bureau.

U.S. Public Health Service.

Office of Education.

Extension Service.

Farm Security Administration.

Bureau of Human Nutrition and Home Economics.

Although the representatives of these agencies seem to be working together, their programs are generally not coordinated through specific legislative requirements.

#### AMERICAN RED CROSS

The Red Cross nutrition program has as its objective to promote, through local chapter activity, sound nutrition in protection of the health of the individual and the community through various methods of individual and group teaching and through the demonstration of nutritional service in selected communities. The local Red Cross chapter by employing a nutritionist may demonstrate the value of her services to the community. The demonstration may be continued long enough to establish a sound and adequate program with well-defined standards, and to interest an official health, welfare, or educational agency to assume responsibility for the continuance of the service at the close of the demonstration. It is reported that about 45 such local nutrition service demonstrations are being carried on currently with full-time professional nutritionists, and that more than twenty other demonstrations have been taken over by local public agencies on a permanent basis.

There is increasing emphasis on the demonstrations in the chapters as compared with formal educational work.

The broad aspects of the programs are planned in the National and Area offices, of which there are five. However, the local chapters have pretty complete autonomy in determining their own programs. They are financed by local contributions (each Red Cross membership contribution is used entirely in the local chapter, except that fifty cents out of each contribution must be forwarded to the National

Red Cross). The organization of the Red Cross Nutrition Service includes a National Director, five Area Directors, and five Assistant Area Directors, and about fourteen full-time nutrition field representatives. This organization develops general policies, maintains liaison with governmental agencies and gives guidance and technical assistance to local chapter nutrition committees.

Local Red Cross chapter committees are made up of a cross-section representation from citizen groups and professional groups having some relation to nutrition. The Red Cross reports over 2,300 local chapters with nutrition committees.

#### CHILDREN'S BUREAU

The Health Services Division of the Children's Bureau administers grant-in-aid programs under which state health departments conduct clinics and assist communities to provide maternal and child health services. The maternal and child health program places great emphasis on education. Clinics are utilized extensively for educating mothers and expectant mothers on medical and nutritional defects and preventive methods. Improved nutrition is one major phase of the program.

To meet its responsibilities, the Children's Bureau has established seven regional offices, of which three are located in Washington, and one each is located in San Francisco, Dallas, Kansas City, and Atlanta. Each office is in charge of a regional medical consultant who reports to the Director of the Bureau's Division of Health Services. These medical consultants assist the states, giving advice relating to various phases of maternal and child health, including nutrition. The Division of Health Services also provides the services of three nutrition specialists who consult with the regional medical consultants, and also consult directly with state representatives. The Social Service Division provides the services of a specialist in group work.

About forty-four state health departments are reported to employ full-time nutritionists. Since most communities do not have nutritionists, the child health program relies on whatever services are available in the community, such as county home demonstration agents, Red Cross nutritionists, home economics teachers, etc. Thus, the child health program itself serves to some extent as a coordinating influence in the nutrition field.

The Division of Health Services also administers the wartime emergency maternity and infant care programs for wives and children of enlisted men in the Armed Forces.

#### THE PUBLIC HEALTH SERVICE

The Public Health Service conducts three programs that include some nutrition work: research in the diseases of malnutrition, assistance to state health education units, and assistance to states in their general public health work. A proposed fourth program is under current consideration: clinical demonstrations of nutritional status and techniques of diagnosis of pathological malnutrition.

The National Institute of Health, which is the research department of the PHS, conducts research in the effects of nutrients on

health. This research is similar in general purpose to some projects conducted by the Bureau of Human Nutrition and Home Economics, but techniques vary considerably, and there seems to be no undesirable duplication.

The States Relations Division administers the general public health grant-in-aid program; part of this fund may be used by states in their discretion for health education, including nutrition. If the clinical demonstration program is actually instituted, it will probably be administered by the States Relations Division. This clinical demonstration program is to demonstrate to state and local public health officials, to the medical, dental, and nursing professions, diagnostic methods for identifying malnutrition in its various forms and stages, and to arouse their interest in initiating preventive and curative programs. One PHS doctor is assigned to the War Food Administration to hold clinics and give demonstrations, but the PHS itself does no such work at present.

The Public Health Methods Division administers a public health education program, chiefly by demonstrating the usefulness of health educators to communities. Professionally-trained health educators employed by the PHS are loaned to states for assignment to assist local health authorities initiate health education work. This arrangement not only helps the community, but also serves to demonstrate the value of the work to other communities. The mounting importance of this demonstration work is reflected in the demand for permanent full-time public health educators, which far exceeds the supply of competent, trained people.

The Industrial Hygiene Division includes the proper feeding of industrial workers as a phase of its work, and has loaned to the War Food Administration a doctor who is a specialist in industrial feeding. The war work in WFA has been largely concerned with helping industrial applicants to obtain critical materials needed for constructing plant cafeterias and canteens.

Direct liaison with state and local public health officers and others concerned with the various phases of public health work is maintained by the PHS District Office, of which there are eight. The Directors of these offices play an important role in planning the PHS program within the district, and are concerned with all phases, including health education, industrial feeding and the like.

#### OFFICE OF EDUCATION

The Office of Education administers a grant-in-aid program by which state Boards of Vocational Education are assisted to operate programs of secondary school vocational education. There are about fourteen thousand home economics teachers in the country's secondary schools, of which eight thousand are paid in part from Federal funds. The home economics courses in this program are given both to high school students and to adults in adult education classes.

The Home Economics Education Service of the Office of Education furnishes consultation services to states through four general regional agents and a specialist in family life education. This consultation includes help on course outlines and teaching aids. In four states,

Utah, Kansas, Ohio, and Tennessee, the Boards of Vocational Education are conducting demonstration projects in family life education. These projects yield information concerning techniques for home economics (family life) education and for community participation in applying family economics educational programs, which techniques can be utilized by the home economics teachers of the country. The Federal Family Life Education Specialist encourages the utilization of these techniques for community organization in family life education. Part of the family life program is concerned with improving nutritional status through applying knowledge about nutrition. Its chief value for a long-term nutrition program is its development of organization methods.

#### EXTENSION SERVICE

The Extension Service of the Department of Agriculture administers a grant-in-aid program under which the State Extension Service of land-grant colleges carry comprehensive rural life educational programs to the rural population. These programs have three broad phases: agricultural production, run by the county agent; home economics and family life, run by the county home demonstration agent; 4-H Club (head, heart, hands and health) programs under which farm boys and girls are trained in all phases of rural farm living. The county workers are paid from three sources, Federal, state and county.

The USDA Extension Service maintains a consulting service of specialists in the fields mentioned. The home demonstration work includes food and nutrition subject matter, and there are four general field home demonstration agents who consult with State Supervisors of home demonstration agents. In addition, there are two nutrition specialists who consult with these State Supervisors. There are about 2,300 county home demonstration agents.

One of the objectives of the Extension program is to teach rural America (largely through circulation of materials and other informal methods of instruction) how to gain better health by applying knowledge about nutrition.

#### AGRICULTURAL RESEARCH ADMINISTRATION

The Agricultural Research Administration of the Department of Agriculture conducts some research directly and, through its Office of Experiment Stations, administers a grant-in-aid program under which State Experiment Stations are assisted to conduct research in agriculture and rural life. One of the ARA constituents is the Bureau of Human Nutrition and Home Economics.

At Beltsville, Maryland, are located the laboratories of that bureau for research in food composition, food preparation, and human food utilization. Other Bureaus of the ARA conduct research at Beltsville concerning new uses of agricultural products and animal nutrition. The ARA, chiefly through the BHNHE, prepares educational and informational materials to publicize the results of its research and these are widely used by other Federal agencies, by states and by the food industry.

## FARM SECURITY ADMINISTRATION

The Farm Security Administration administers a rural welfare program designed to make better farmers of those to whom it has loaned money. This program is operated through regional, state and district offices. The work with "borrower" families is conducted by FSA district office representatives, including home economists. Their objectives are about the same as the county home demonstration agents of the State Extension Services: education of rural families, in this case "borrower" families, to improved health through better nutrition. The ultimate objective is to place these borrowers on a self-supporting basis.

## THE WAR NUTRITION PROGRAM

This section describes how these Federal nutrition programs have been coordinated and utilized as the basis of the war nutrition program.

## COORDINATION OF FEDERAL NUTRITION PROGRAMS

In 1935 the President created an interdepartmental committee on health and welfare, one of those subcommittees was a committee on food research and nutrition, made up of representatives of the Department of Agriculture, the Department of Commerce, and the Public Health Service. That subcommittee is said to have been initially appointed by the interdepartmental committee to consider a proposal made by the Department of Commerce for the creation of a national food research commission. The subcommittee reported against the separate food research commission, recommending instead that a permanent technical food research and nutrition subcommittee be created by the interdepartmental committee.

The subcommittee on food research and nutrition then undertook a coordinating function with the Federal agencies concerned with nutrition, giving them advice and helping them to channel the results of nutrition research to the medical profession and to the public. This was the first formal Federal interdepartmental coordinating machinery relating to nutrition programs.

In 1940 the Advisory Commission to the Council of National Defense was activated and included a Consumer Commissioner. The Federal Security Administrator was designated Coordinator of health, welfare and related activities, and he appointed a Nutrition Advisory Committee, made up of representatives of certain Federal agencies and various national organizations concerned with nutrition.

In May 1941, at the recommendation of this Nutrition Advisory Committee, the President, called a national nutrition conference for defense. A wide range of recommendations came out of the conference relating to research in nutrition, purchasing power of low income groups, participation of public health doctors, industrial feeding processing and distributing food, nationwide nutrition education program, and community programs for applying nutrition knowledge. (See Appendix 2.) These recommendations, especially those relating to nationwide popular education, and to community nutrition programs, have formed the first theoretical basis for the program which is in operation today. Prior to the conference, the Land Grant College

Executive Committee suggested the establishment of state nutrition committees. Practically all state land-grant colleges had established such committees before the conference.

In September 1941, the Federal Security Administrator's responsibility for coordinating the nutrition programs of the several Federal agencies was redefined by the President under Executive Order No. 8890. At this time the Nutrition Division was set up in the Office of the Administrator. The interdepartmental committee was carried over, and it continues today. It is now made up of representatives of the twenty-three Federal bureaus and offices listed in Appendix 1.

This war mechanism was designed chiefly to coordinate and strengthen the nutrition work of existing Federal agencies and made no change in their programs.

Early in 1943 responsibility for interdepartmental nutrition program coordination was transferred to the War Food Administration in line with its general responsibility for the war food program. The FSA Nutrition Division became the WFA Nutrition Programs Branch, now a part of the WFA Office of Marketing Services. The staff of the branch consists of about thirty-five departmental and fifty field employees who assist the branch chief to carry out the functions assigned by the President. The functions assigned under Executive Order No. 8890 may be summarized as follows:

To serve as the center for coordinating nutrition services made available by Federal agencies; and to meet the needs of state and local communities arising from the defense program;

To make available nutrition specialists to assist in planning and executing state and local nutrition programs; and

To study, plan and encourage measures to assure provision of adequate defense nutrition services, during the emergency, and to coordinate studies and surveys made by Federal agencies in the nutrition field.

The War nutrition program has been interpreted by the WFA Nutrition Programs Branch to mean facilitating exchange of nutrition information among Federal agencies; encouraging Federal agencies to emphasize the nutrition aspect of their regular programs, and to plan those programs jointly; encouraging state and local agencies to coordinate the nutrition aspects of their programs; facilitating scientific research in nutrition and in food habit changes through the National Research Council; conducting a nationwide popular nutrition education program; stimulating the formation of local community nutrition committees throughout the nation.

#### EXCHANGE OF NUTRITION INFORMATION

The exchange of nutrition information among Federal agencies has been facilitated through the meetings of the 23-agency interdepartmental committee. Meetings have been planned quarterly and have been devoted chiefly to a presentation by the War Food Administration of the food supply outlook for the coming quarter.

#### JOINT PROGRAM PLANNING

Greater emphasis on nutrition and on interagency coordination of nutrition program planning has been encouraged through a sub-

committee known as the Nutrition Planning Committee. This committee is made up of representatives of the agencies having educational programs: Children's Bureau, American Red Cross, Office of Education, Extension Service, Farm Security Administration, and Bureau of Human Nutrition and Home Economics. This planning committee meets monthly and has thus far served chiefly to acquaint the agency representatives with each other and with each other's programs and to serve as a common meeting ground for non-partisan discussion of a few (thus far relatively non-controversial) common problems.

#### COORDINATION AT STATE AND LOCAL LEVEL

State and local agencies have been encouraged to coordinate their nutrition programs through state and local nutrition committees. As has been mentioned, these state committees were initially set up by the land-grant colleges. They were adopted subsequently as state CCD committees and that is their status today. Local nutrition committees have been formed largely at the suggestion of state nutrition committees.

To assist the state committees to form local committees, the WFA Nutrition Programs Branch has offered to employ and assign a trained nutritionist to act as secretary for any state committee. Forty-three states have requested and been assigned a secretary. These secretaries also help the state committees in the popular education part of the program by writing articles and speeches and other public information activity, but their main effort appears to have been placed on promoting and organizing local community committees. The work of these Federal employees has been directed by the state committee chairmen, rather than by the WFA. This arrangement was made to minimize Federal control over the state programs.

A mailing list of nearly 4,000 local committees exists in the WFA Nutrition Programs Branch, although it is informally estimated that less than half of these are active. In practically all cases, these local nutrition committees are part of the local CCD organization. These state and local committees have included membership from the public and private operating agencies with nutrition programs and, in addition, representatives from a wide variety of nonprofessional private organizations (See Appendix 3 for list of organizations).

The administration of the wartime nutrition program at the state and local levels has been similar in basic objective and method to the administration of the county land use program. See Appendix 4 for a brief note on this parallel.

#### SCIENTIFIC RESEARCH IN NUTRITION

Scientific research to discover the facts about human nutrition has been carried on by many individuals and institutions over three-quarters of a century. Yet knowledge about such matters as food composition, the effect of nutrients on health, and the prevention of the diseases of malnutrition is far from complete. In order to bring scientific prestige to the Federal nutrition program, and to facilitate general acceptance of certain basic nutrition data, the Nutrition Programs Branch encouraged the National Research Council, a federally

created organization without Federal appropriation, to establish committees in two broad fields of research: a food and nutrition board and a committee on food habits. The Nutrition Programs Branch has given fiscal support to these two committees at the rate of about \$61,000 per year. In return it has obtained opinions on a variety of scientific nutrition questions which have been valuable to the war program chiefly because of the prestige of the National Research Council. Under this arrangement the NRC has conducted no research of its own but, acting through its committees, has collated the results of research previously carried on by others and has published these collations under the name of the NRC. The country's foremost nutritionists compose the Food and Nutrition Board and some of the country's outstanding anthropologists and psychologists are members of the Committee on Food Habits.

#### POPULAR EDUCATION

Perhaps the chief new ingredient in the governmental nutrition work during the war has been the nationwide popular nutrition education program which has been led by the WFA Nutrition Programs Branch. The Branch's writers have assisted in preparing educational and publicity materials which have been distributed by many public and private organizations and by the state and local nutrition committees. The branch has enlisted the cooperation of various organized groups, labor unions and food industry advisers in particular, and these groups have themselves prepared and published popular education materials. These materials have taken the form of pamphlets, bulletins, and folders which have been distributed through labor unions and other organized groups. Newspaper and magazine advertising has been prepared and published by the food industry in periodicals of widely varied types, reaching many groups of the American population. The Nutrition Programs Branch has itself distributed educational and publicity materials, pamphlets, radio talks, editorials, etc., to state nutrition committees. The state nutrition committees have used these materials and have prepared materials of their own. County and community committees have also been furnished with educational materials, usually by the state committees and they, too, have obtained publicity in newspapers and other local periodicals and have distributed materials through special groups. The country has been made nutrition conscious in the war through this popular education campaign.

#### ESSENTIALS OF THE LONG-TERM PROGRAM

This section of the report points up some of the major issues in planning the continuation and expansion of Federal activities for raising American nutritional levels. That program must be planned on a long-term basis, since the food consumption changes involved are so fundamental. To get people to make the needed changes, the local leaders of the country's communities must first be helped to realize the health and other benefits that better nutrition brings. At least a minimum of local group organization is essential. Assistance can be given to community and neighborhood leaders by representa-

tives of state organizations. State representatives can in turn be assisted by representatives of Federal agencies. This assistance can include nutritional research, developing informational materials, experimenting with and developing improved educational and community leadership methods and techniques, and consulting with community leaders to assist in the application and use of such methods.

At the state and Federal Government levels the several organizations working in the field of nutrition need continuously to improve and strengthen their operations. As new programs and new phases of old programs develop, careful consideration should be given to strengthening the existing bureaus and offices, in contrast to setting up additional program operating agencies. Special effort needs to be given by these existing agencies to maintaining close liaison with each other, especially in the program planning phases of their work.

The relationship of Federal nutrition improvement programs to Federal programs for guiding agricultural production is important. Another relationship that will doubtless be important in the future is that with the International Food and Agriculture organization.

#### BETTER NUTRITION A LONG-TERM OBJECTIVE

That there is need for research and education in nutrition is well established. Recent health surveys based on widely distributed clinical examinations of samples of various age and economic groups, including the rejection records of the Selective Service System, show that many age and economic groups in the American population live at low nutritional levels. Much remains to be done to ascertain the exact nutritional status of various age, economic, and geographical groups. And more remains to be done, using that nutritional status information, to overcome the obstacles in the way of obtaining even a minimum nutritional level for good health.

Improving the nation's nutritional status must be recognized as a long-term task. Even though much is known about the causes of and prevention of malnutrition, many years of peacetime effort will be needed before widespread permanent improvements can be brought about in American food habits. Much educational work must be carried on. New techniques must be invented for removing the social, economic, and engineering obstacles in the way of attaining this better nutrition. Success in this work depends largely on getting the local community leaders of the nation to take the initiative. These objectives cannot be attained over night. Consequently, the programs and organizations developed should be planned as permanent parts of government activity.

#### COMMUNITY LEADERSHIP

There is a growing recognition among the leaders of many of the nation's communities of the health and economic benefits that can be derived from raising nutritional levels. Primary responsibility for education and action to improve nutritional status must rest with the communities. This emphasis on local activity arises chiefly out of the wide variation among the nation's communities in present food consumption habits and food supply resources—also, out of the very personal nature of eating habits. Based on local leadership and under-

standing of local conditions, a local program can be devised to solve the particular local nutrition problems in an acceptable manner consistent with local customs. The wartime nutrition activities have demonstrated again and again the importance of this point of view.

Experience shows that local leaders are often slow to recognize local problems and to organize for action. Some assistance from outside the community, frequently from representatives of state, and sometimes Federal, agencies has proven helpful to get prompt action. Of course, such outside assistance must be offered with great skill and understanding. A program imposed on a community from outside, and pushed faster than the community can assimilate it, may gain passive acceptance, but no real local participation; and such programs may be expected to collapse when outside support is withdrawn.

The war nutrition program, having moved rapidly on a broad front depends to a large degree upon Federal support. Long-term nutrition improvement activity, on the contrary, ought to depend to a large degree upon community leadership and initiative. And one of the chief requirements of long-term nutrition work is to develop methods for community leaders to use in their communities and to develop methods for state and Federal agency representatives to use in helping community leaders to meet their responsibilities.

#### STATE ASSISTANCE TO COMMUNITIES

Each state will determine its own policy as to a program for assisting community groups to improve health through better nutrition. Each state will decide whether it is necessary to strengthen its nutrition work with communities. Each state will decide whether it will try to coordinate the impact of the field representatives of the several state departments on the communities. Each state will select the type of program it feels is best suited to the conditions in the state.

A wide range of possible policies and administrative arrangements are available, as has been disclosed by the war nutrition program which has addressed itself largely to long-term nutrition education problems. However, this experience is not systematized. Too little is known as to what policies and organizations are required under given circumstances. More experimental demonstration work needs to be carried on before such questions can be answered.

Even though representatives of Federal agencies may be interested and active, the success of whatever work is carried on in assisting community leaders will be influenced largely by the degree of participation and interest of the representatives of the state agencies. These representatives of state health, education and extension agencies have already developed important techniques for assisting communities to help themselves. The need is for them to adapt and improve their methods in nutrition work, through exchange of experience and more systematic experimentation in helping community leaders get local action.

#### NEED TO STRENGTHEN EXISTING AGENCIES AND PROGRAMS

There is no separate nutrition program in the Federal Government. Rather there are nutrition elements in the existing programs of the several Federal and state agencies. Future emphasis should be placed

on developing the existing Government agencies on a long-term basis to take on added responsibilities. All the regular programs that contain some nutrition work can benefit from strengthening and coordinating.

At the community level nutrition needs should be appraised, community programs should be developed to apply nutritional knowledge toward improving local conditions, and the technical resources of the community, particularly the technical representatives of public and private agencies, should be mobilized and coordinated to assist the local leaders. At the state level the policies of the several public and private agencies need to be coordinated, and their efforts to create local community organization should be encouraged. At the Federal level the programs of the several operating agencies should be coordinated and some leadership given to the development of methods and materials in the field of nutrition education and application, and in the field of community leadership on nutrition.

#### FEDERAL INTERAGENCY COORDINATION

The Federal agencies whose programs include some aspect of nutrition ought to plan their programs jointly and give emphasis to training their field representatives in techniques of community organization. The need for joint, coordinated program planning among Federal, state and local agencies whose programs include some nutrition activity seems established. The method already in use has proved convenient: establishing interagency committees at each level of Government.

The war nutrition program has attempted to erase agency lines, to the end that concentration would be on the total program rather than on the role played by the cooperating agencies. It is by no means certain that this philosophy of anonymity can be successful. It is important for each agency to feel that its program is being strengthened.

Federal agencies without state relations or field programs need an exchange of information. Federal agencies with state relations and field programs need something more than exchange of program information: agreements need to be reached among the agencies as to nutrition subject matter to be utilized in their work and as to policies to be adopted with states.

An important phase of nutrition education work is the development of community leadership. The importance of community leadership in the nutrition program, as in other phases of the health and welfare programs of these agencies, is well recognized. It may be desirable to find some way of emphasizing that aspect of the regular operating programs of the Federal agencies concerned, perhaps by giving special training to the field representatives, perhaps ultimately by adding experienced community organization specialists to the staffs of the agencies.

#### LEADERSHIP FOR FEDERAL INTERAGENCY COORDINATION

Interagency cooperation in planning programs needs to have some positive leadership. Responsibility should be clearly and definitely assigned to some individual for keeping the interagency committee

together, for reporting from time to time to the President on the progress of the program, and for bringing to the President's attention those problems which the agencies cannot themselves resolve. The nutrition research and education work of the Federal Government has a long way to go before the nutritional status of the country has been raised to the standards now accepted as necessary for good health. New programs may become essential, old programs may require strengthening or modification. And the needed advances in Federal activity will be brought about more surely and more rapidly if a suitable individual is assigned responsibility for leadership.

#### AGRICULTURAL PRODUCTION

Close coordination will be essential between the health and education programs relating to nutrition, and the planning of agricultural production goals. Provision should be made for nutritionists to advise the goals planners, and vice versa.

#### INTERNATIONAL FOOD AND AGRICULTURE ORGANIZATION

The relationship between the American nutrition education program and the International Food and Agriculture Organization cannot be forecast at this time. Since the FAO has not yet been established and since the manner of American participation has not yet been determined, it has been thought best to omit speculation on this relationship in this report, even though it will be of first importance once the American participation in FAO is decided upon.

#### RESEARCH IN NUTRITION

Peacetime nutrition activities will make use of the findings of research, both in governmental and non-governmental institutions, in various aspects of nutrition education work.

Food and nutrition research is carried on in several Federal agencies, particularly in the Agricultural Research Administration and the National Institute of Health. No specific problems of interagency research coordination have been observed during this survey. However, relating this research to the nutrition education work of the various Federal bureaus and offices was found to be essential.

The National Research Council has collated and, in many instances published, the findings of research institutions on nutritional requirements, food composition, and other phases of food nutrition research; and on the techniques for changing American food habits. The Federal bureaus should maintain relations with the National Research Council's Food and Nutrition Board and Committee on Food Habits if they continue in existence.

#### COORDINATION OF FEDERAL AGENCY ACTIVITIES

##### NEED FOR INTERAGENCY COOPERATION

The functions relating to research and education in nutrition are so dispersed among the several Federal bureaus and offices as to make necessary some special devices for keeping them mutually informed concerning current and proposed operating plans and for

assuring that the individual agency programs are planned in relation to the programs of the other agencies. The bureaus and offices that have field programs are located in the Federal Security Agency, the Department of Agriculture, and the Department of Labor. Since it cannot be assumed that all these bureaus could be placed in the same agency, some special cooperative effort seems essential. The war nutrition program has indicated the potential value in coordinating the work of these bureaus in two broad fields: developing methods for nutrition education, and developing methods for stimulating communities to initiate and conduct applied nutrition programs. These two fields will be of at least equal importance in the long-term program.

Although a coordinating committee can facilitate, it must avoid instituting independent programs, and must stay out of operations. Programs ought to be operated only through the regular bureaus and offices. Educational materials, for example, are and can continue to be prepared by the Office of Education, the U.S. Public Health Service, and the Bureau of Human Nutrition and Home Economics. Community organization materials relating to their particular programs could be prepared by the same agencies, with the assistance of such other staff agencies in the Government as the Bureau of Agricultural Economics.

The war nutrition coordinating program recognizes the importance of states carrying on their own nutrition programs, and of having the states get the communities to carry on the local work. Whatever justification there may be during the war for bringing direct Federal leadership to bear at the state level, in the person of the federally paid executive secretary, careful examination of the extent to which this Federal leadership should be carried over into the peacetime should be made jointly by the Federal bureaus and offices concerned.

The importance of organized community action in obtaining application of better nutrition has been demonstrated both in the war nutrition program and in the regular educational programs of the Public Health Service, Office of Education and Extension Service. However, it must be admitted that methods for obtaining community action are in an early stage of development and that much more needs to be done before representatives of all Federal bureaus and offices and their state counterparts can be adequately trained in methods for obtaining community participation. It appears it will be some time before Federal representatives can give definitive consultation to states concerning such methods in order to enlist the active participation of state agencies in the process. As a first step, therefore, toward strengthening the long-term nutrition work in the several bureaus and offices, arrangements should be made for demonstration projects in several American communities to experiment with methods for developing community nutrition organization to apply knowledge about nutrition. These demonstrations should be conducted by the regular bureaus and offices, and there should be full exchange of information among others.

#### RESPONSIBILITY FOR PROGRAM DEVELOPMENT

To lend continuity to the development of Federal nutrition programs, to make certain that important issues involved in inter-agency

cooperative program planning are adequately considered and not merely compromised or passed over, to make sure that the interagency committee carries on and addresses itself to important matters, and generally to sparkplug the program, the President should designate an individual, suitably located in the Federal Government structure, to be responsible for interagency nutrition program planning. This individual should be a member of, and meet with and work through the interagency committee, to the fullest extent possible, in an effort to bring about a democratic coordination.

This individual should identify important gaps, duplication, and inconsistencies in programs, discuss them with the bureaus and offices concerned, and when desirable, report to the President, recommending a course of action. This responsibility cannot extend to the operating phases of the agency programs, and should not include responsibility or authority for the financial or personnel affairs of those agencies. Building on the good will and cooperation of bureaus and offices concerned with nutrition, this leadership can facilitate the development of program planning on a scale broader than any single agency could develop, and can encourage interagency planning on a positive and continuing basis.

No one of the several coordinate operating bureaus and offices should be singled out to be assigned leadership over the others, both for the purpose of preserving the voluntary nature of the cooperation, and to avoid having the program take on the color of any one of the bureaus or offices at this stage of development. Perhaps ultimately the pattern of interagency relationship will permit this, but in the foreseeable future, leadership should be located at a higher administrative level.

It has been suggested that one logical possible location for such a person is the Executive Office of the President, perhaps the Bureau of the Budget. But this would remove the leadership for joint planning too far from the operating agencies and might spotlight the work in its early stages than it could stand.

Except for the Children's Bureau and the Red Cross, the member bureaus of the Committee are located in USDA and in the FSA. The state relations work is concentrated in Public Health Service, Office of Education (both in FSA), Extension Service (USDA) and Children's Bureau (Labor). Only the Farm Security Administration operates a direct Federal program. There is a rough distinction in that USDA is concerned with the rural population, whereas FSA is concerned with the health and well-being of all elements of the population. Of course, the Federal Security Agency has been in existence only during a short pre-war and the war period, and its long-term permanent characteristics have not yet clearly emerged. It is believed that the FSA should concern itself with the health and welfare of all the people, and ultimately should be the logical agency to lead the nutrition work.

However, as long as war food shortages continue to dominate the situation, leadership should remain with the War Food Administrator. Later on, when these food shortages have been met the long-term health and education nature of the interagency program should be emphasized by assigning leadership to the Federal Security Administrator. In either case, the Administrator should assign the day-to-day contact with the program to a subordinate, who should be located

at a high organizational level in the WFA, and, later, in the FSA Office of the Administrator.

#### INTERAGENCY PLANNING COMMITTEE

Experience in other programs, and in the nutrition program during the war, indicates the utility on a long-term basis of an interagency committee to be made up of representatives of agencies with nutrition work in their operating programs. This interagency committee should be small enough to reduce the number of personal contacts at the committee meetings to a minimum, thus permitting a full exchange of views. Five Federal agencies with field programs need to be coordinated: Children's Bureau, Public Health Service, Office of Education, Extension Service, and Farm Security Administration. And one research agency, Bureau of Human Nutrition and Home Economics, should also be included. One representative from each agency should be sufficient. The interagency committee which has functioned during the war period has been limited to those bureaus and offices having educational field programs and the Bureau of Human Nutrition and Home Economics, as the largest research agency in the field of nutrition. Membership has not extended to agencies with other programs, such as industrial feeding, school lunch, etc. This definition seems valid and this report recommends no change. It will be desirable, however, for the representative of the War Food Administrator (and, later, the Federal Security Administrator to meet regularly with the committee).

#### COMPOSITION OF INTERAGENCY COMMITTEE

Selection of the representatives of these agencies could be according to any one of several principles. As one possibility, it has been suggested a committee be established composed of three members, the Secretary of Agriculture, the Federal Security Administrator, and the Secretary of Labor. Inasmuch as these individuals could scarcely devote the time needed, however great their personal interest, they would have to delegate their responsibility to bureau and office heads, and it seems unlikely that these top officials would meet often. Such a high level committee would tend to formalize what must be a cooperative relationship. Moreover, it would be difficult to locate responsibility under such an arrangement. On the other hand, the approval of policies by such high level officials might lend great weight.

A second possibility which has been suggested is to compose the committee of the heads of the several bureaus and offices with the field educational programs; the Commissioner of Education, the U.S. Surgeon General, the Director of Extension, etc. Nutrition work is of greater relative importance to these individuals than to the department heads and they would be able to devote more time to the work of the Committee. However, if the interagency problems, particularly when the war stimulus to cooperation has been removed, are numerous and important enough, considerable preliminary exploring and negotiating may be desirable before bringing together the agency heads. This could be accomplished by a system of subcommittees which would initially consider the questions and submit findings and recommendations to the main committee. One objection to this type

of committee is that the main committee would be too formal. A basic question to answer in considering this type of committee is whether the chiefs of these bureaus and offices would have sufficient time to participate actively or whether they would likely rely on alternates. Reliance on alternates would be likely, if experience elsewhere is any indication, and these alternates would parallel the present nutrition Planning Committee membership. If the bureau heads would serve actively on the committee, its deliberations could result in decisions. However, a principal objection to suggesting this type of organization is that thus far the wartime nutrition planning committee has not dealt with major issues. This report has already pointed out the potential of this committee for effecting interagency coordination, but until more of that potential has been realized, the personal participation of the bureau chiefs is not required.

A third type of committee would parallel the present planning committee with a single representative from each bureau and office, such representative not being the bureau head. The representatives ought to be the individuals who have full responsibility for the operation of the nutrition aspect of the agency's program. It might be desirable to designate as representative, one responsible for a larger part of the agency's program than nutrition alone simply to assure full consideration of the impact of nutrition on the regular work of the agency. The specialists of various sorts could then be named to the subcommittees working in their fields. In general, it is felt that the representation must be by officials high enough in the bureaus and offices to assure decision, consistent with assuring active participation.

Whenever interagency cooperation on nutrition research and education proves itself to be sufficiently substantial and important, the interest of the bureau heads can be enlisted; a later stage of development might see an interagency committee made up of those bureau heads. Interagency cooperation on nutrition is in too early a stage of development at this time, however, to warrant the personal participation of the bureau head.

#### SUBCOMMITTEES

To facilitate its work, the interagency committee should develop a system of working subcommittees, perhaps four or five. Each subcommittee could concern itself with one of the following fields of interest: nutrition education materials, community organization methods, nutrition research, survey of nutritional status, and program evaluation. Perhaps each member of the main committee could chair one of the subcommittees. The subcommittees could be made up of agency representatives other than the members of the coordinating committee; in some cases it might be desirable to invite persons from agencies not represented on the coordinating committee. Representatives of the Bureau of Agricultural Economics, for example, might be placed on the community organization and program evaluation subcommittees. Representatives of the agencies with nutrition research might be placed on the nutrition research subcommittee.

The discussions and findings of each of the subcommittees would create a basis for interagency cooperation in the field of the sub-

committee. These findings could be reported to the full committee and used by the several operating agencies in their regular programs.

It has been suggested that others than Federal agency representatives should participate in the work of the interagency committee. One possibility would be to invite representatives of food industry groups, labor unions and other national organizations to sit on the committee. However, if the purpose of the committee is to serve as an informal device to facilitate cooperation among the Federal agencies, there is a serious question whether non-governmental representatives should be members. It would be better to invite them to participate from time to time in selected phases of the work of the subcommittees. Presumably the individual operating bureaus and offices have or will develop suitable citizen advisory facilities so that their own programs can be developed democratically.

#### INTERAGENCY EXCHANGE OF INFORMATION

Examination of the nutrition activities of Federal agencies, other than those represented on the interagency planning committee, reveals that the chief aspect of coordination needed among them is the exchange of information. This exchange is needed to keep the agencies mutually informed as to their current work, the results of research and investigations, and proposed programs. Except for the five agencies with field educational programs, the work of these agencies may be said to fall generally into a single category: research and publication of nutrition information.

Attendance of representatives of these agencies at the various quarterly interagency meetings has served to inform them concerning the future food supply situation, and in at least one instance, to acquaint them with some of the international food supply problems facing the United States. However, this can be accomplished without the formality of a committee and without the necessity for calling the agency representatives together. These quarterly meetings are reported not to have served to keep the agencies mutually acquainted concerning their programs and in this respect the interagency committee has not fulfilled its mission. This mission could be accomplished by preparing and circulating a periodical (perhaps monthly) statement. Such statement could be prepared in the office of the WFA—or FSA—Administrator. A representative of each of the bureaus and offices could be visited once each month in order to develop the type of information and coordination needed by the bureau and the type of information available from the bureau for circulation to other agencies.

To further vitalize whatever of interagency coordination may be necessary, representatives of these agencies could be appointed from time to time when necessary on the working subcommittees of the interagency planning committee which have been suggested. For example, the Fish and Wild Life Service and the Bureau of Foreign and Domestic Commerce might send representatives to participate in the work of the subcommittee on research.

Since interagency coordination and exchange of information can be accomplished without the need for a formally established committee, it has been recommended that the 23-member interdepartmental nutrition coordinating committee be dissolved.

## COORDINATION OF STATE AGENCY ACTIVITIES

Until the land-grant college nutrition committees were established in 1940, there was no formal interagency coordinating machinery for the nutrition program in the states. As far as can be determined, whatever coordination of state nutrition programs took place prior to this time was accomplished informally and without committees or other machinery. Most of the research and education work in nutrition in the states is conducted by the state health and welfare departments, the land-grant colleges, and the state boards of vocational education. In addition, there have been nutrition education programs run by the Farm Security Administration and by the American Red Cross. The land-grant college nutrition committees and their successors, the present State War Council nutrition committees, have in most states included representatives of all of these programs.

This report is concerned mainly with research and education in nutrition, and with methods for practical application of nutritional knowledge in the communities: the state health and welfare departments, the state boards of vocational education, and the land-grant colleges including both the Extension Services and the experiment stations. All of these state programs are operated with Federal grant-in-aid funds and the corresponding Federal agencies exercise some degree of control over the expenditure of those funds by the state, although that degree of control is said to be very small in some instances.

Whether the theoretical advantages to state programs of interagency exchange of information concerning current and proposed programs and of the joint planning of certain programs can actually be realized in any given state is a matter primarily for the state to determine. Federal agency participation in this decision seems essential, however, where there is Federal financing of all or part of these programs. In that case, the Federal agencies have a considerable stake in efficient and effective state agency operations. And if Federal agencies believe such state interagency coordination does increase the effectiveness and economy with which the Federal funds are spent in the state, then each Federal agency has a real interest in sponsoring such interprogram coordination at the state level.

The coordination of regular state agency programs is only one of two developments needed at the state level. The other is the experimental development of methods for carrying the program into the communities of the state in order to apply knowledge about nutrition. A variety of techniques for such application have already been developed in connection with health education, extension, and family life education programs in the various agencies. What is needed is to ascertain by controlled experiment how the nutrition education job should be done at the community level. Also needed is a series of demonstrations to show communities by example what can actually be done so that other local groups will be encouraged to initiate their own programs.

Regardless of subject matter program, interagency coordination can be made more effective at the state level if some individual is designated to take the lead in the coordination. The present state nutrition committees are very spotty in the character and scope of

the coordination they are effecting. And the job of the executive secretary of the wartime state committee is equally undefined. One of the dominant notes in the wartime executive secretary's job appears to have been promoting and organizing community committees. However, this responsibility on a long-term basis should rest with the representatives of each of the state agencies. Appendix 4 lists the activities of the state committee executive secretaries, as shown in their monthly reports for September 1944. In no case should the committee build up a staff, for the reason that the committee itself might then tend to embark on a program of its own instead of working to strengthen the existing agency programs and to solve new problems by utilizing those agencies.

The regular representatives of the various state agencies should be responsible for carrying their nutrition programs to the communities. The state coordinating committee device, with encouragement and advice from Federal bureau representatives (who are themselves coordinated through the Federal committee) ought to facilitate the development of the state program. But that program should be operated by existing agencies, without the need for new agents operating in the field.

It has been suggested that the private citizen has an important role in securing state interagency coordination, but this concept is obscure. Most of the state war nutrition committees have included representatives from nongovernmental agencies such as food marketing trade associations, medical associations, home economics associations, and leagues of women voters. The chief utility of their participation appears to have been their availability as channels for disseminating nutrition information in general, and their usefulness in stimulating interest in community nutrition committees. It has been argued these private groups should be represented on state committees in order to bring to the committee the point of view of the public in general and to keep the agency representatives up to date with the states' needs. It has also been pointed out these local groups are useful in bringing various types of pressure to bear at suitable points in the state governmental structure in support of programs thought by the committee to be desirable but for which little enthusiasm had been generated in the state operating agencies.

This report can suggest no definitive answer to the question of private citizen participation. An alternative to placing private group representatives on the state interagency committee itself would be to create subcommittees for various purposes, as has been suggested for the Federal committee, and to invite representatives of private organizations to consult with those subcommittees. If the purpose of the interagency committee is to facilitate interagency program coordination, then it would be better to have the committee made up only of representatives of the state operating agencies.

It has been suggested, and the Bureau of the Budget field surveys indicate, that the state nutrition committee secretary is essential to keeping the committee going. The source of funds to finance the committee secretary becomes of primary importance, and the funds should be state funds. Arrangements might be worked out whereby Federal grant funds, under the existing health and education program could be used by states for the purpose of paying the secretary's salary.

## COMMUNITY LEADERSHIP AND ORGANIZATION

## THE NEED FOR LOCAL ORGANIZATION

The object of the present community nutrition activity is to ascertain the incidence and severity of malnutrition, preclinical deficiencies as well as clearly defined disease, to determine what changes are necessary in local food consumption habits and to plan and execute a program for making these changes. Actual improvement in nutritional status must take place in the neighborhoods and communities. Such improvement can be brought about in many ways, chiefly by educating people and then by facilitating the application of what they have been taught. To bring about this application of nutrition knowledge (and to solve the public problems which stand in the way) the formation of local community committees of persons interested in nutrition has been encouraged in the war program. It appears to have been fairly well demonstrated that some minimum formal local organization is necessary to keep a program moving. Without organization the necessary group effort does not persist: representatives of public and private agencies tend to operate without consulting with each other; non-technical citizen interest lapses when there is no institutional continuity. And even though a local nutrition program ostensibly arises spontaneously out of the recognition by the community of a problem, experience has demonstrated the usefulness of outside consultative leadership, and this leadership can be made most effective when there is a local organization.

## LOCAL WAR NUTRITION COMMITTEES

In anticipation of wartime food shortages, the war nutrition program was forced to seek to establish itself more widely and at a more rapid pace than would have been considered wise in peacetime. And in this "extensive" sweep (a part of the OCD "mushrooming") a great many local committees (and perhaps some state committees) have been set up that normally would not have been created so soon. These committees were not always set up as the natural outgrowth of a recognition of local need by local leaders, but instead, in many cases, were set up because of the outside pressure brought by Federal and state war-appointed officials. Since these committees are not motivated by recognition of a local problem by local leaders, the programs are either unimportant or non-existent. However desirable to the health and welfare of the community a satisfactory nutrition program might be, little can be gained by perpetuating that sort of war organization in the peace period.

On the other hand, many community committees (and many state committees) have carried on effective programs owing to the recognition of local nutrition problems by community leaders and their determination to try to solve the problem. Such committees do not depend for continued effectiveness on some outside force. Such committees have in many cases created programs which can be utilized in a long-term program.

Perhaps the useable can be distinguished from the useless in part by the extent to which the committee is dependent on continued outside support for its existence. Although this is not a completely

reliable measure, it appears that if genuine local interest has been aroused in community leaders outside support should be unnecessary. Of course this should not preclude guidance and stimulation from outside sources. It is informally estimated that relatively few of the recorded war-created local committees have developed to a point where their continuation is essential to the long-term nutrition program.

#### NEED FOR EXPERIMENTATION

The war program has not developed definitive data concerning the types of committees that should be used under given conditions, or how such committees should be initiated and how state agency consultation should be provided. Answers to these and many other practical questions of organizing communities for applying nutrition knowledge must be developed by experience in the future before launching any large-scale efforts. A moderately-paced experimental program is needed, concentrating on selected communities. That experimental work should be well integrated with community organization work being sponsored by Government and private agencies for other programs.

Observation to date indicates the task of the local nutrition committee is two-fold: to provide an institution through which local leaders can function in deciding the nature of the local program, and to provide an institution through which outside agency representatives can provide consultative services.

Numerous experiments, both public and private, have been and are being carried on (Extension Service, Bureau of Agricultural Economics, Office of Education, Council of Intergovernmental Relations and privately-endowed institutions) in methods of organizing communities for their own programs. And although some important inventions are being developed, the process is necessarily slow. Much more experimental work should precede any very extensive effort to obtain community organization for a peacetime nutrition program.

A distinction must be made between conducting a limited number of reasonably well-controlled experiments with a view to applying results on an expanding basis later, and, on the other hand, attempting to maintain organizations in all states and in a large number of communities by continuing the wartime Federal support. In the former case, experiments will lay solid ground work for growth of permanent community institutions. In the latter case, the war organizations would be perpetuated, and it seems doubtful that the needed systematic contribution would be made to the methodology of community organization. Of course, the methodology must be applied, and to be practical about it, probably some combination of experimental work and application in communities should be worked out.

#### PARTICIPATION OF REPRESENTATIVES OF STATE AGENCIES

As has already been pointed out, several state agencies have representatives visiting communities, each one with an interest in fostering a local nutrition program. Not all agencies reach every community. In fact, except in the larger communities there may be no more than

one representative working in a community. It appears to make little difference what agency reaches any given community, as long as there is a reasonable consistency among agency representatives as to the techniques employed and nutrition program content, and as long as there is adequate correlation in those larger communities where two or more are at work.

It will be essential to obtain the participation of state agency representatives in improving methods for organizing local nutrition activity so that they can work directly with communities (with both the citizen leaders and the technical consultants) in the development of community programs. Their work can be coordinated at the state level through a state nutrition committee. And one of the functions of the state committee could well be to foster, both within each agency and by joint action, training programs for the state agency representatives in the community organization field.

#### COMMUNITY ORGANIZATION DEMONSTRATION PROGRAM

The Federal Government, through the regular bureaus and offices, should assist those state agencies and nutrition committees who are interested, to conduct experimental demonstration programs for placing community nutrition work on a permanent basis in selected communities. These state demonstrations should be designed to show the community itself and other interested communities how their own resources and personnel can be used to ascertain their nutritional status and determine action needed to improve it, to identify the obstacles that are in the way and to develop and operate a program for eliminating those obstacles. Those demonstrations should also show how the community can utilize the resources and personnel of state agencies and should show the state agencies how they can coordinate their own programs to serve the community.

#### POPULAR EDUCATION

The War Nutrition Program relies on a wide range of general educational outlets, in addition to the work done by the regular agencies with specific groups. Although there will probably be need for some similar general publicity and education program on a long-term basis, that program should not be too general, but should be pointed toward particular population groups and should be planned to supplement and strengthen the educational work of the regular agencies.

During the war a great deal of general publicity has been given to importance of improved nutrition and this publicity has associated better nutrition with the war food situation. The food industry has spent large sums on advertising to encourage Americans to improve their wartime eating habits. Few people have escaped some contact with this advertising campaign. Whether such contributions by the food industry can be expected on a long-term basis is doubtful. In fact it is said there are signs that the food industry advertisers have already become less interested.

Careful examination should be made of the utility of this food industry advertising to assist the agencies in this long-term nutrition education work. That examination should include some reasonably scientific "public attitude" test to ascertain exactly what use should

be made of food industry outlets, particularly what type of advertising is most needed. This advertising is said to be useful as "softening up" material, in itself probably accomplishing little in the way of improved eating habits, but arousing interest in nutrition and paving the way for the more specific action program of the agency representatives operating in the community.

There is said to be need for a single office in the government where food industry advertising, voluntarily submitted, can be reviewed for conformity with desirable nutritional standards. Exactly what these standards would be and what conformity would amount to is not at this time clear, although it seems likely the wartime nutrition program emblem could be the basis for some limited peacetime advertising. And the use of this emblem could be on a permissive basis under conditions similar to those in effect during the war. There is said to be some evidence that some members of the food industry would like to continue their voluntary self regulation of advertising practices after the war. Perhaps the Food and Drug Administration should be utilized for this work. Of course, the Federal Trade Commission already regulates certain advertising practices, while the Food and Drug Administration regulates only the claims made by distributors on food container labels. There seems to be no provision for regulating the food industry advertiser as to the nutritional qualities claimed for his product.

FTC trade practice conference methods might be useful, and they should be explored.

The popular education work of the labor unions has included the preparation and distribution of menu pamphlets, cook books, and a wide variety of nutrition education material through the local unions to the union member's family. Worker education groups have included nutrition in their courses and discussions. The labor union popular education work appears to have been more direct in character than the advertising, and has probably resulted in some food habit improvements.

The unions are said to have resources to continue at whatever level of operation they desire to sustain on a long-term basis, with whatever informational assistance can be furnished by the regular Government bureaus and offices.

During the war the Nutrition Programs Branch has prepared a few nutrition education materials such as pamphlets, and articles to be published in various journals. This work should be left to the regular operating agencies, especially the Bureau of Human Nutrition and Home Economics. The means for coordinating the preparation of such materials should be the interagency program planning committee.

The educational work with the medical profession carried on by the Nutrition Programs Branch in the war has included conducting clinics and demonstrations before groups of doctors and nurses in order to arouse their interest in, and give them some limited instruction in, methods of diagnosing nutritional diseases. This work has been carried on by a U.S. Public Health Service doctor on detail to the Branch. This work must be carried on by a doctor specialized in this field. Moreover, it is the kind of work that should logically be assigned to the U.S. Public Health Service as a part of its regular program. The work has real merit and ought to be continued.

## SERVICES OF NATIONAL RESEARCH COUNCIL

The primary function of the National Research Council's Food and Nutrition Board has been to provide to Federal administrators the scientific opinion of an organization with prestige and non-administrative responsibilities. The utility of this arrangement has been chiefly in handling public relations problems. The recommended dietary allowances of the Food and Nutrition Board, for example, have never been seriously challenged. It is unlikely that the Food Administration or the Price Administration could have made the same recommendation and maintained their positions, owing to the operating and political nature of their regular responsibilities. The NRC's prestige, therefore, is the main commodity purchased by the Food Administration under that part of its contract with NRC relating to the Food and Nutrition Board. If the WFA or OPA need the Food and Nutrition Board they should develop specific contracts for the projects they need.

No general fiscal support of the Food and Nutrition Board seems necessary on a long-term basis. It is conceivable that from time to time special projects may be needed and so it may be desirable for certain agencies to contract for needed services on a specific project basis. The Food and Nutrition Board is supported from many sources other than its present contract with the Nutrition Programs Branch, and its existence will not be threatened when that contract is cancelled.

The Food and Nutrition Board operates through a number of committees. Brief reference to the work of each of these committees will indicate the probable need for long-term financial support from Federal agencies.

*The Committee on Cereals* has been partly financed by the Nutrition Branch contract and has been concerned mainly with enrichment of flour, bread, and corn meal. It has the active support of the millers and bakers organization and has developed standards of enrichment and has publicized widely scientific opinion concerning flour, bread, and corn meal enrichment. Although its technical position is not to sponsor legislation, it has associated itself very closely with the movement for uniform state legislation requiring enrichment. The future work of this committee will apparently be largely in the field of publishing scientific information about the value of enrichment. The War Food Administration, through its Nutrition Programs Branch, supports the uniform state legislation program and may need some work on a project basis, but this is scarcely a long-term matter, and probably no fiscal support is needed.

*The Committee on Diagnosis and Pathology of Nutritional Deficiencies* has been partly financed by the Nutrition Programs research contract. Its work has been chiefly of assistance to the medical profession, and has consisted largely in collating the results of research in methods for surveying and diagnosing nutritional deficiencies. The committee is preparing a manual of survey methods. If the committee continues, its work will consist in permitting methods for surveying nutritional deficiencies. This committee's work is specialized along lines of peculiar interest to the Public Health Service. Whether the committee is to continue to have Federal fiscal support should be decided by the Public Health Service.

*The Committee on Dietary Allowances* has been partly financed by the Nutrition Programs Branch contract. The committee prepared and on January 1942 published its "Recommended Dietary Allowances" which has formed the basis for a great deal of the American Nutrition Program and which has had world-wide distribution and use. The future work of this committee will be to maintain these allowance tables up to date in light of advancement in biochemical knowledge. Since these are the key data in this program, and since the cost of the committee will probably be small, it should probably be supported on a specific project basis.

*The Committee on Fats* has been supported partly by the Nutrition Programs Branch contract. It has studied human requirements for fats and has analyzed the fat content of various foods. Its future work will be in the effect of fat rancidity on nutrition. This work would appear to be of most immediate interest to the Agricultural Research Administration.

*The Committee on Food Composition* has had no fiscal support from the Nutrition Programs Branch. Its work seems to be related directly to the food composition work of the Bureau of Human Nutrition and Home Economics.

*The Committee on Nutrition of Industrial Workers* has been financed partly from the Nutrition Programs Branch contract. It is preparing a manual of industrial feeding. The future of the committee is uncertain.

*The Committee on Protein Foods* has surveyed the American protein situation and made recommendations concerning substitution of certain protein foods for meat and fish. Its future work will be in the important field of low cost proteins.

*The Committee on Survey of Dental Caries* has been partly financed by the Nutrition Programs Branch contract. It has encouraged research in certain aspects of prevention of dental caries. Its work seems to fall in the same class as that of the Committee on Diagnosis and Pathology of Nutritional Deficiencies. Any future Federal fiscal support should come through the Public Health Service.

*The Committee on Milk* formulated a milk rationing plan which has not yet been needed. It is concerned with better utilization of the American milk supply. Its future is uncertain.

Another NRC committee is the Committee on Food Habits. It was set up to correlate existing knowledge concerning the food habits of various social groups in the United States and to develop methods for getting people to improve those habits. The committee has been supported largely by the Nutrition Programs Branch contract but has had some support from other sources. The committee has encouraged academic research in the field of food habits and has arranged for a few specific projects to be undertaken by academic institutions to assist the Nutrition Program. These projects have been concerned, for example, with discovering why the food habits of selected groups exist and for discovering how the habits of these groups can be improved. This research is in a very early stage of development. It is a new coordination of sociological resources, and although it is socially important, it seems more appropriate for the colleges and universities and professional societies of the country rather than the Federal Government to support the work at this early stage and provide the

research coordination. The concentration of the committee on matters relating to food habits has been chiefly because its main source of support has been the Nutrition Programs Branch. If it could be financed by agencies interested in housing, clothing, and other phases of home economics and family life, the committee could move to include the whole range of home and family life economics as its field of interest.

This survey has made no attempt to work out desirable future relationships of Federal agencies to the NRC Committee on Food Habits. Each agency that desires work done for it by the Committee should contract for it on a project basis, within its authorization. But no general Federal support of the Committee for nutrition research purposes seems desirable on a long-term basis.

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#### APPENDIX 1

##### FEDERAL INTERDEPARTMENTAL NUTRITION COORDINATING COMMITTEE

Office of Civilian Defense.  
 Office of Education.  
 American Red Cross.  
 Federal Works Agency (Division of Service Projects).  
 Extension Service.  
 Navy Bureau of Medicine and Surgery.  
 Bureau of Dairy Industry.  
 Children's Bureau.  
 Bureau of Foreign and Domestic Commerce.  
 Food and Drug Administration.  
 Fish and Wildlife Service.  
 Office of Marketing Facilities.  
 USDA Office of Information.  
 Office of Price Administration.  
 U. S. Public Health Service.  
 Bureau of Public Assistance.  
 Office of Experiment Stations.  
 Bureau of Human Nutrition and Home Economics.  
 Bureau of Agricultural Economics.  
 Farm Security Administration.  
 Office of Indian Affairs.  
 Bureau of Labor Statistics.  
 War Department, Office of the Surgeon General.

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#### APPENDIX 2

##### RECOMMENDATIONS OF THE NATIONAL NUTRITION CONFERENCE FOR DEFENSE

The 1941 National Nutrition Conference for Defense held at Washington, worked through several committees, two of which were concerned with "Community Planning for Nutrition," one urban committee and one rural committee. The recommendations of these committees, adopted by the conference, were as follows:

##### URBAN COMMITTEE

- I. That community organization for better nutrition should be planned as a permanent long-range program.
- II. That the immediate present emergency should be used to crystallize interest, public opinion, and action with respect to this long-range program.
- III. That plans for organization should be based upon the broadest possible community interest and support for the objectives of the total program.

IV. That prestige should be secured for the programs by making use of persons, organizations, and situations which already have prestige value.

V. That responsibility for leadership in the development of nutrition programs within States should be assigned to State nutrition councils or committees.

VI. That this community sanction should be evidenced by wide representation and participation of interest groups and organizations of committees at Federal, state, and local levels.

VII. That producer, distributor, and consumer interests should have explicit representation and participation on community organization at each level (national, state, and local).

VIII. That members of nutrition committees should be selected on the basis of demonstrated ability to give professional and lay leadership and to work well with other people.

IX. That state nutrition committees should be responsible for assisting with the development of local problems in every way possible.

X. That the unit of organization should be the neighborhood or some other natural community subdivision.

XI. That these state committees should be responsible for contacting those persons most likely and able to take effective leadership in initiating local programs.

XII. That deliberate and determined effort should be made to take full advantage of all existing resources, remembering that many different voluntary and official agencies and programs are already operating in American communities.

XIII. That all new committees must be carefully and completely related to existing machinery for community organization.

XIV. That the Federal agency responsible for the National Nutrition Program make available to state nutrition committees one or more consultants to assist with the development of state and local programs as such assistance is desired.

XV. That this same agency serve as a clearing house for the collection, preparation, and distribution of simplified educational materials, such as exhibits, movies, radio scripts, film strips, charts, posters, etc.

XVI. That in planning local nutrition programs local nutrition committees should consider the need for at least four types of projects:

A. Projects such as nutrition clinics, special consultation services, etc., through which families can be helped to discover their particular nutrition problems.

B. Projects designed to meet specific needs revealed by consultation services. These will be varied in nature and will grow out of the recognition of specific needs.

C. The development of an integrated program of nutrition education to be carried on through the schools from the first grade through the adult education classes.

D. The development of a community-wide program of public education to be carried on through such agencies as the radio, the press, the movies, forums, and discussion groups. Experience seems to show that such programs are more effective when they are based on discovered needs than when they attempt to create the sense of need.

XVII. That definite plans for continuous evaluation should be made a part of the community nutrition program from the beginning.

#### RURAL COMMITTEE

I. That the National Nutrition Conference for Defense encourage every rural county and community in the United States to develop a comprehensive and integrated program that will adequately meet the nutrition needs of every man, woman, and child, not only during the emergency, but also on a permanent basis.

II. That the state nutrition committees designate the individuals, groups, or agencies who should assume responsibility for calling together those who should participate in the development of county and community nutrition programs.

III. That in planning county and community programs, all existing groups and agencies concerned with nutrition participate. Existing planning bodies should be used where possible. In all cases, the county or community planning bodies should include adequate lay representation.

IV. That, as a first step in developing a nutrition program, each county or community become familiar with its local nutritional status and needs. This involves such considerations as the number of families with inadequate incomes,

the number of farm families not producing adequate supplies of food for home consumption, and the prevalence of diseases due to malnutrition.

It should be understood that these recommended procedures do not involve the creation of a new administrative authority or agency, but rather provide for the correlated action of existing agencies and organizations in:

- (a) Appraising needs and resources of the county and community.
- (b) Formulating the county and community program.
- (c) Getting action on the program.
- (d) Keeping the public informed on progress made.

In counties where there are large cities, separate rural and urban organizations may be necessary, but, in all cases, there should be close coordination of rural and urban nutrition programs at state and county levels.

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### APPENDIX 3

#### COMPOSITION OF TYPICAL STATE NUTRITION COMMITTEE

State Department of Health.  
 State Department of Education.  
 Extension Service.  
 Farm Security Administration.  
 Office of Civilian War Services.  
 War Food Administration.  
 State Colleges of Agriculture.  
 State Department of Welfare.  
 State Federated Women's Clubs.  
 Parent Teachers Association.  
 American Red Cross.  
 Dental Association.  
 Medical Association.  
 Dietetics Association.  
 Home Economics Association.  
 Electric and Gas Company.

Membership of the committee varies considerably from state to state, but according to information furnished by WFA, the above organizations are usually represented.

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### APPENDIX 4

#### COUNTY LAND-USE PLANNING

The organization of the War Nutrition Program resembles the land-use planning organization set up under the so-called 1938 Mt. Weather Agreement between state Land-Grant colleges and the Department of Agriculture. Under that agreement the State Extension Services set up county land-use committees as sub-committees of their County Agricultural Program Building Committees. The county land-use committee was made up of 10 farmers, the county agent, and representatives of the various USDA action agencies operating in the county. At the state level the State Director of Extension was the chairman of a State Land-Use Planning Committee, similarly composed.

Although these county and state committees had no authority to supervise the work of the USDA action agency representatives, they did have the right to require an explanation from any action agency representative who could not follow through on programs worked up in committee.

The four objectives of this land-use planning organization were defined in the USDA Secretary's 1939 Annual Report as:

"(1) Democratic participation of farm men and women in the planning of action programs, (2) adaptation of national policies and programs to varying local conditions and to local problems, (3) coordination of the many bureau and division activities into one broad comprehensive program, and (4) coordination of Federal, state, county, and local action on agricultural problems."

It has been said <sup>1</sup> that Mt. Weather Agreement objectives were never attained, chiefly because the farmers were never brought to an understanding of land-use

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<sup>1</sup> See Gross, Neal C., "A Post-Mortem on County Planning," *Journal of Farm Economics*, August 1943.

planning and because leaders relied on developing administrative organization rather than upon developing a spirit of self-help in the community.

By the terms of the 1943 Agricultural Appropriation Act, Congress prohibited the use of funds for land-use planning and this prohibition continues today.

#### APPENDIX 5

#### ACTIVITIES OF STATE NUTRITION COMMITTEE SECRETARIES AS SHOWN IN THEIR SEPTEMBER 1944 REPORTS

1. Writing and delivering radio talks.
2. Inquiring of institutions their nutrition problems, developing plans to obtain the needed assistance.
3. Writing and sending out bulletins to local committees.
4. Planning exhibits re school lunch programs for educational association meetings.
5. Meeting with local committees to stimulate action.
6. Meeting with Home Economic Associations, Nutritionists Associations, etc.
7. Meeting with labor groups to obtain support for local committees.
8. Meeting with Food Preservation committees to stimulate program.
9. Assisting extensive librarian on selecting nutrition books for "lay persons."
10. Obtaining American Legion cooperation.
11. Arranging for news column stories in newspapers.
12. Preventing conflicting meetings (Extension, Red Cross, Home Economists, etc.).
13. Obtaining cooperation from dairy and ice cream industry for exhibits at State Teachers meeting.
14. Speaking to vocational homemaking teachers state conference.
15. Visiting school home economics departments and county extensive offices.
16. Obtaining dairy council help in preparing and sending nutrition material to local nutrition committees.
17. Addressing conference of vocational home economics teachers on methods for teaching nutrition in schools.
18. Meeting with association of churches to emphasize nutrition in church groups.
19. Assisting extension nutritionist, extension home economist director to emphasize nutrition with farmers.
20. Assisting State Health Department to understand state committee program.
21. Writing nutrition articles for State-PTA program.
22. Writing nutrition column for Restaurant Association monthly magazine.
23. Holding State Nutrition Committee meetings.
24. Arranging with state groups and organizations to distribute posters.
25. Arranging with businessmen's service clubs to show nutrition films at meetings.
26. Explaining county nutrition committee functions to prospective members—organizing and promoting committees.
27. Arranging for distribution of material through Doctor's and Dentists' offices.
28. Arranging with State Nutrition Committee members to send out literature to their county workers, put up posters.
29. Conducting poster contests in schools.
30. Assisting in arranging for nutrition clinic to be conducted by U.S. Public Health Doctors from Washington to illustrate local deficiencies.
31. Attending State Extension Service worker's conferences.
32. Assisting Department of Education to select a school lunch nutritionist.
33. Developing constitutions, by laws, involving plans for state and local committees.
34. Arranging for distribution of pressure cookers for canning.
35. Assisting committees working on state legislation.
36. Assisting in investigating nutritional service in state institutions, at request of Governor.
37. Assisting State Health Department Director of Health Education (Nebraska) in nutrition.
38. Planning for having checks made in the schools of diets of school children.
39. Promoting establishment of community school canning center with instructor paid by Vocational Department.
40. Stimulating interest of others in the projects of one State department, e.g., in the State Health Department Nutrition clinics.
41. Promoting training school for county school lunch managers.

## APPENDIX II

### PANEL I-3: FEDERAL AND STATE ADMINISTRATIVE STRUCTURE OF MONITORING ORGANIZATIONS\*

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*Chairman:* William D. Carey, Senior Staff Consultant, Arthur D. Little, Inc., Washington, D.C. Former Assistant Director, Bureau of the Budget.

*Vice Chairman:* John H. Browe, M.D., Director, Bureau of Nutrition, New York State Department of Health, Albany, N.Y.

#### *Panel members*

James P. Carter, M.D., Assistant Professor of Nutrition and Instructor in Pediatrics, Vanderbilt University School of Medicine, Nashville, Tenn. (Chairman, Panel I-1).

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D. Mark Hegsted, Ph. D., Professor of Nutrition, School of Public Health, Harvard University, Boston, Mass. (Chairman, Panel I-2).

Robert E. Shank, M.D., Ph. D., Danforth Professor of Preventive Medicine, Washington University School of Medicine, St. Louis, Mo. (Vice Chairman, Panel I-2).

Herman Sommers, Ph. D., Professor of Politics and Public Affairs, Woodrow Wilson School, Princeton University, Princeton, N.J.

Dorothy Sortor, Congressional Secretary, League of Women Voters of the U.S., Washington, D.C.

#### *Consultants*

Nils A. Boe, Director, Office of Intergovernmental Relations, Executive Office of the President, Washington, D.C. Former Governor, South Dakota.

Roger Jones, Assistant Director, Bureau of the Budget, Washington, D.C. Former Chairman, U.S. Civil Service Commission.

Elmer Staats, Comptroller-General of the United States, Washington, D.C.

Bennetta B. Washington (Mrs. Walter E. Washington), Ph. D., Director, Women's Job Corps Centers, Manpower Administration, U.S. Department of Labor, Washington, D.C.

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\*From the Final Report of the White House Conference on Food, Nutrition, and Health.

## REPORT OF PANEL I-3

## RECOMMENDATION NO. 1: FEDERAL ADMINISTRATIVE COORDINATION

As the Federal Government is now organized for roles and missions affecting food, nutrition, and health, these problems are everybody's business and therefore nobody's. We recognize that this profusion of interests arises from the realization that nutritional fitness intersects with the Government's objectives in promoting health and education, job opportunity, family security, maternal and infant care, early childhood development, income maintenance, food, and agricultural programs and a wide range of efforts to enhance economic opportunity. We do not wish to diminish these interests and energies.

We recommend that presently diffused Federal machinery for dealing in a piecemeal way with food and nutrition as they relate to health be administered hereafter as a total system under clear policy guidance, accountability, program management, and independent mechanisms for evaluation. Balkanization of responsibilities and authorities constitute a serious barrier to a concerted attack on hunger and malnutrition.

## RECOMMENDATION NO. 2: WHITE HOUSE SURVEILLANCE

The White House Conference will create expectations for a major attack on the problems of nutrition and health. But the history of special commissions, task forces, and White House conferences points clearly to the importance of Presidential leadership and commitment in achieving results through governmental action. In the absence of strong and focused followthrough from the highest level, the work of this Conference may consist largely of talk rather than results.

We strongly believe in the necessity to have a lively and effective presence in the Presidential staff to pursue the recommendations of the Conference with the support and backing of the President.

We recommend that the position of Special Assistant to the President for Nutrition be designated in the White House to follow through in implementing the findings and recommendations of this Conference and to serve as eyes and ears for the President.

## RECOMMENDATION NO. 3: POLICY COORDINATION

Interdepartmental coordination of policies and resources of the executive departments and agencies is essential if there is to be agreement on objectives and priorities for Federal action in the field of nutrition and health. While many departments and agencies can and should be operationally involved in programs and activities to improve nutrition and health, there is a need to focus policy perspectives and overall responsibility at the Cabinet level. Councils and committees chaired by an official of Cabinet rank are not the answer; they lack authority and become bureaucratized.

A clear presidential delegation of prime policy leadership within the executive branch, equated with the role of the Secretary of State in the field of foreign affairs, will be necessary to establish a strong center of policy coordination for food, nutrition, and health.

We recommend that the Secretary of Health, Education, and Welfare be assigned by Presidential Executive Order governmentwide policy and coordinating responsibilities for food and nutrition as they relate to health. We recommend, moreover, the early transfer of the food stamp and food distribution programs to the Department of Health, Education, and Welfare.

#### RECOMMENDATION NO. 4: COORDINATION WITHIN THE U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

The Department of Health, Education, and Welfare has at its disposal a remarkably diversified array of programs that have high relevance to nutrition and health. At the same time the Department is an extremely complex organization. The task is to create a mechanism for synthesizing and coordinating research and applied community and individual services provided by this Department.

We recommend that the Secretary of Health, Education, and Welfare direct the Assistant Secretary for Health and Medical Affairs:

- (a) To establish an Office of Nutrition with the responsibilities of a project manager to formulate and carry through policy priorities across the Department.
- (b) To plan and implement an effective nutrition surveillance and monitoring system linked with and cooperating with State, county, and local nutrition and health units and with appropriate programs of the Department and other Federal agencies.

#### RECOMMENDATION NO. 5: SURVEILLANCE AND MONITORING

Judgments as to the incidence and severity of nutrition and health deficiencies have been based, to a considerable extent, on intuitive knowledge. The need to search out nutrition and health needs of special areas and groups is acute. While there is merit in undertaking a national probability survey, the more urgent and immediate need is for the commitment of resources to high-risk populations and areas in order to define particular problems and responses. This goes directly to the determination of the extent and severity of hunger and malnutrition at its worst, availability of delivery of services, and the initiation of solutions.

We recommend that the Department of Health, Education, and Welfare plan to carry out nutrition surveillance and monitoring aimed at selected target populations and areas, and develop techniques for continuing monitoring systems. Techniques need to be developed for monitoring diets and to identify problems before they become clinically evident.

#### RECOMMENDATION NO. 6: PRIORITIES

In designing and carrying out comprehensive surveillance and monitoring efforts, care must be taken against dilution of the financial and human resources that will be available in the early years. This indicates the necessity for making decisions as to priority categories of need. Evidence at hand is sufficient to document the effects of poverty and

the enhanced risks to mental and physical development from severe malnutrition during the first few years of life. This risk extends into the period of pregnancy if the expectant mother is unable to provide the infant with sufficient nutrients.

We recommend that in evolving surveillance, monitoring and nutrition services, primary attention be given to the following categories with the poverty population:

- (a) Preschool children;
- (b) Expectant mothers;
- (c) Primary school children; and
- (d) Other categories of persons with low incomes such as Indians and migrant workers.

#### RECOMMENDATION NO. 7: RIGHTS OF PRIVACY AND PARTICIPATION

A high level of professional skill is needed in conceiving, designing, and applying methods for surveillance and monitoring. This professional expertise must, however, be balanced with considerations of individual dignity and choice. It would be tragic if the constructive goals of surveillance and monitoring should be defeated by misguided impositions and intrusions upon individual and community standards.

Such protections must be built into the philosophy of surveillance and monitoring from the very beginning.

We recommend that in designing and implementing surveillance and monitoring systems and procedures, governments at every level take steps to assure:

- (a) Protection of persons against breach of privacy;
- (b) Participation of special groups (including the low-income and otherwise disadvantaged) selected as targets for surveys.

#### RECOMMENDATION NO. 8: ENHANCEMENT OF ON-GOING PROGRAMS

It is important to recognize that appropriate nutrition surveillance services, evaluation, and education can be applied effectively throughout the Federal food delivery programs and through the federally-aided programs such as head start, day care, parent-child centers, community action, model cities, school lunch programs, maternal and infant care programs and programs for children and youth. It is equally necessary to bear in mind that the Government has a responsibility not only for monitoring diets but also for monitoring the effectiveness of its programs to be sure that they reach the people who are in the greatest need.

Each of the ongoing programs is designed to help a special segment of the population and in general is directed towards those segments of the population that are considered to be high risk from the standpoint of nutritional health. Nevertheless we have reason to doubt that a number of these programs are adequately structured or staffed and funded to provide nutrition surveillance and services commensurate with what is needed.

We must not take for granted the effectiveness of programs now underway.

We recommend that full and effective provision be made for nutrition surveillance, evaluation, and education in Federal food delivery programs and in those federally-aided programs that relate to high risk groups.

#### RECOMMENDATION NO. 9: IMMEDIATE VERSUS LONG TERM STEPS

While much needs to be done to close gaps in surveillance and monitoring, the panel has not lost sight of the importance of strengthening and extending direct action efforts to improve nutrition status. Hunger and malnutrition are hard realities with which we must deal. Surveillance and monitoring are important improvements to be sought, but they must not distract attention or resources from the real and present danger of hunger and malnutrition.

We recommend that precedence be given to strengthening and expanding programs and projects that deliver needed health and nutrition services to persons and families while work goes forward on the longer range goals of surveillance and monitoring of nutrition and diets.

#### RECOMMENDATION NO. 10: DEPARTMENT OF AGRICULTURE PROGRAMS

The U.S. Department of Agriculture has periodically conducted surveys which have provided valuable information on the patterns of food consumed by families and individuals and indications of the nutritional values of the diets. The Department's food consumption surveys could yield more useful information if conducted more often and if broadened in coverage. The Department of Health, Education, and Welfare should coordinate activities in surveillance with these studies. Both departments would benefit from the present special studies and national nutrition survey that provide sufficient information for immediate action programs. With only modest fractions of eligible people now participating in the food stamp and commodity distribution programs, it is extremely urgent to search out and assist those groups who should be receiving assistance but are not getting it.

We recommend:

1. That the USDA's family, individual, and household food surveys be broadened in coverage and coordinated with nutrition and health surveillance;
2. That the USDA surveys be placed on a 5-year sequence; and
3. That USDA strengthen its ongoing nutrition research programs and take full advantage of its outreach to low income rural and urban families and communities through its cooperative extension service in coordination with other programs serving such families.

#### RECOMMENDATION NO. 11: AREA NUTRITION SERVICE CENTERS

There is a need to strengthen and improve the basic role of State and local public health agencies and community organizations in delivery of services in nutrition and health. Until such time as public

health and other official and voluntary agencies and medical centers can develop effective intrastate or areawide coordinated programs for delivering educational, health, and nutrition services, there will be a need for developing centers of excellence or area nutrition centers. Such centers should be established in several regions of the United States in the expectation that they can materially expedite the evolution of new surveillance and monitoring systems and act as watchdogs over nutrition services to the poor. They will not replace nor duplicate existing systems for delivering health and nutrition services.

To be effective in its outreach, the center's staff and policymaking body should include persons representative of groups suffering from hunger.

Guided by a parent center at the national level, an area nutrition center should be a place to which poverty groups as well as the health professions can look for a variety of services, education, and consultation in health matters affecting or affected by food. Such a center would help to strengthen and expand existing systems for delivery of health and nutrition services. The center must provide an open hot line between hungry people and the Office of Nutrition. The first goal of the center is to seek out the readily identifiable groups in the population that do not have enough food, then determine how food can be made available to them through existing means and the availability of health services delivery, and use its capabilities to get some action.

The second goal is to improve the quality of an increase participation in existing means for making food and health services available to these groups of people. The third goal is education of the public at the community, family, and individual levels as well as those with public responsibility.

The Office of Nutrition at the national level should have the capability to objectively evaluate the work of the area nutrition centers in terms of recognizable and measurable effectiveness in achieving their goals and missions.

We recommend:

1. That the basic role of State and local public health agencies in nutrition and health be supplemented by area nutrition centers established by grant or contract by the Office of Nutrition with groups judged to have competence;
2. That the centers should provide an open hot line between hungry people and the Office of Nutrition;
3. That these centers assist with surveillance, monitor diets, interpret and disseminate information and data, provide public education, conduct professional education programs, develop new techniques for surveillance, conceive and test programs to combat malnutrition, conduct nutrition-connected behavioral research, supply multidisciplinary teams to work on nutrition problems with target groups, furnish laboratory service to physicians, and establish health service links with the medical profession; and
4. That persons representative of groups suffering from hunger be included in the staff and policymaking arms of the center.

## RECOMMENDATION NO. 12: MANPOWER FOR NUTRITION

During the Panel's consideration of the best means for implementing health-related nutrition surveillance, monitoring, and services, it became acutely aware of the constraint imposed by shortages of trained professional and paraprofessional manpower. The need for manpower to cope effectively with the Nation's hunger and malnutrition seems to have been overlooked. It is grievously plain that nutrition strategies will remain academic if the manpower is not there to implement them.

Substantially increased funds should be budgeted and appropriated for the education and training of public health nutrition personnel and for instituting new types of educational programs of an interdisciplinary kind. The Federal Government must take the lead in creating from scratch a national nutrition manpower system including paraprofessional personnel.

We recommend:

1. That the Federal Government provide substantially increased funds for education and training of dietetic and public health nutrition personnel; and for instituting joint programs in medicine and human nutrition among graduate schools of public health, medicine, allied health, dentistry, nursing, and home economics; and
2. That the Federal Government take the lead in creating a national manpower system to achieve impact on nutrition health problems through training and upgrading of paraprofessional personnel, making full use of vocational education, technical institutes, junior and community colleges, extension service aides, and other programs.

## RECOMMENDATION NO. 13: OFFICE OF ECONOMIC OPPORTUNITY

Most Federal departments and agencies that are well-established encounter difficulties in undertaking experimental, innovative programs and projects with a large element of risk and uncertainty. A major exception is the Office of Economic Opportunity. It has within its charter and mandate to do things differently and to try the untried. If it is not crippled by legislative changes, this agency has an enviable opportunity to break through traditional and conventional processes in meeting the problems of hunger and malnutrition.

We recommend that the Office of Economic Opportunity give special emphasis in its experimental and innovative programs to providing:

- (a) Nutrition services and education to the poor;
- (b) Strengthen nutrition components in its multipurpose neighborhood centers and comprehensive health centers;
- (c) Increased research and development on hunger and malnutrition among the poor; and
- (d) Direct food delivery programs wherever on-going food stamp and commodity distribution programs are not effective.

## RECOMMENDATION NO. 14: STATE GOVERNMENTS

Most of the demand for improved measures to deal on a major scale with hunger and malnutrition is concentrated upon the Federal Government. Yet there is a growing sense that the Federal Government is not organized or equipped to come to close grips at the community, neighborhood, and family levels with these problems. The State and local levels are where the action is. Administration must recognize this fact and respond to it.

As the Federal Government revises and improves its administrative capabilities in the field of nutrition and health, we look equally to State government to do likewise.

We recommend:

1. That the Governor of each State establish a major unit concerned with surveillance and monitoring of nutrition and diets and the delivery of applied nutrition programs, and that the U.S. Department of Health, Education, and Welfare provide financial and technical assistance in establishing such organizations; and
2. That the State legislatures assign to appropriate committees the responsibility on a continuing basis to investigate the facts regarding hunger and malnutrition and to aid in determining nutrition goals, priorities, and programs through the legislative process.

## COMMENTS OF COMMUNITY ORGANIZATION TASK FORCE

## PANEL 1-3: FEDERAL AND STATE ADMINISTRATIVE STRUCTURE OF MONITORING ORGANIZATIONS

*Recommendation No. 2*

The task force repeats its request that the panel add: "The special assistant shall publish and send quarterly reports to all the participants of the Conference."

*Recommendation No. 5*

The task force repeats its earlier admonition, which it feels must be emphasized: "Until all the action needs of the programs are met, such surveys shall be established only within the action programs, shall be run by the participants and the recipients of the programs, and shall consume only a small percentage of the total action budget."

*Recommendation No. 6*

The task force recommendation on reordering priorities went unheeded. The task force recommends "that in evolving surveillance, monitoring, and nutrition services, priority within available funds and manpower should be: (1) All categories of persons with low incomes; (2) preschool children; (3) expectant mothers; (4) primary school children."

*Recommendation No. 10*

The task force recommendation "that all service programs be moved to the Department of Health, Education, and Welfare" was ignored.

*Recommendation No. 11*

The Panel ignored the task force recommendation "that the basic role of State and local public health agencies in nutrition and health be supplemented by area nutrition centers established by grant or contract by the Office of Nutrition, with groups judged to have competence. In areas where State and local agencies do not provide adequate or equitable services to all, contracts may be made directly with organized local groups of nutritional or health service recipients.

## APPENDIX JJ

### GUIDELINES FOR A NATIONAL NUTRITION POLICY\*

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#### INTRODUCTION

The Select Committee on Nutrition and Human Needs is charged with the investigation and development of a comprehensive National Nutrition Policy for the United States. In the past 4 years, great attention has been paid to nutrition as an important public policy question. Significant investigations have been made in a number of Federal feeding programs, and new innovative programs have been initiated.

Additionally, other actions on a broad range of nutrition concerns have been taken throughout the Federal Government and in the private sector. The Food and Drug Administration has moved in the area of food labeling and food safety. The Federal Trade Commission is seriously investigating the area of food advertising. Research into basic nutrition, and the relationship between nutrition and disease is beginning to be understood and may provide some important answers to major health problems many Americans face today.

An overriding question of concern that has come to the fore, in the past year, is the question of adequate food availability. It is apparent to those who have been following developments in the area of nutrition and public policy that we have reached a point where we must begin to face broad, but very basic, policy decisions:

How is the Federal Government to be organized to deal with these various nutrition questions?

Which are the concerns that are most important?

What kind of remedial legislation is necessary?

What types of Executive actions can be taken?

What can the private sector do that does not require Government action at all?

The National Nutrition Consortium—an organization eminently qualified to deal with these kinds of questions—has been studying this problem for some time. I am delighted that they have provided the Select Committee with the fruits of their work, "Guidelines for a National Nutrition Policy." I am especially delighted that the Select Committee is publishing the Consortium's guidelines in advance of our hearings in June of this year on National Nutrition Policy. I believe that the Consortium's guidelines can serve as a valuable document for all of those participating in the Select Committee's study and hearings.

GEORGE MCGOVERN, *Chairman.*

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\*A working paper prepared by the National Nutrition Consortium, Inc., for the Select Committee on Nutrition and Human Needs, May 1974.

## PREFACE

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### NATIONAL NUTRITION CONSORTIUM, INC.

9650 ROCKVILLE PIKE, BETHESDA, MARYLAND

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#### TOWARD A NATIONAL NUTRITION POLICY

The past year may represent a turning point in history. Numerous developments including the energy crisis, inflation, rising food costs and depletion of our food reserves have convinced many knowledgeable people that we are now entering an era which will be characterized by a shortage of resources including food. The high energy cost of producing food makes it clear that food and the energy supply are inextricably linked. For the first time, the capacity of the United States to feed itself and meet its world food commitments is being seriously questioned. A world food crisis exists at this time, and this will have serious repercussions in this country.

The first requirement of a food supply is that it provide a nutritionally adequate diet for the population. We must first supply what we need even if we cannot supply what we want.

New attitudes, priorities, and a restructuring of responsible governmental agencies and their programs will be required if we are to deal effectively with food and nutrition problems that we face now and in the future. We must create the social and political climate which will make this possible and this will be a complex process. This statement on a national nutrition policy by the National Nutrition Consortium indicates the essential components of such a policy and we urge that action be taken now to initiate its development.

D. MARK HEGSTED,  
*Chairman, Board of Directors.*

## FOREWORD

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Governments are established in order that man, through his collective efforts, may fulfill his needs for survival and security; and, with increasing affluence, enjoy the benefits and comforts that arise from shared abundance. To accomplish this, high priority must be given to protection of the individual by assuring him the best opportunity of procuring and utilizing food to fulfill his basic needs.

The costs of meeting these needs and the level of abundance at which they are fulfilled vary with the socioeconomic, cultural, and technologic level of a particular society. Indeed, these features are everchanging as a society evolves from its early primitive structure—concerned primarily with survival and security—to the complex, technologically developed, affluent organization as currently exists in North American and European countries. In these latter societies, the majority of the population is concerned with maintaining the standards of health, comfort, convenience and enjoyment that are unattainable by less developed societies. Governments of the highly developed societies have recognized new responsibilities of food supply, quality assurance and health protection that arise with developing technology.

Large-scale technological production of foodstuffs has created unique circumstances that require new systems of regulations and monitoring; and new understanding by the public in order to attain maximum benefits with minimal risks.

From the founding of this Government, in 1776 to the present, the United States has grown from a population of 3 million to over 200 million. The high standard of living and level of health of the Nation are results of technologic development. The technologic application of science in agriculture makes it possible for less than 4 percent of the population to produce the abundant agricultural supply of this Nation—in striking contrast to the earlier situation, and that pertaining today in developing countries, where 60 percent to 80 percent of the population are engaged in agriculture with living and health standards in marked contrast to those of the United States.

Accordingly, a concise statement of a National Nutrition Policy is timely and desirable. The National Nutrition Consortium—representing four major scientific and professional societies,<sup>1</sup> the membership of which have responsibilities for developing, through research, new knowledge in nutrition and food science in relation to man's needs for health—has addressed itself to preparation of guidelines for

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<sup>1</sup> The American Institute of Nutrition, The American Society for Clinical Nutrition, The American Dietetic Association, and The Institute of Food Technology. The organizations have a combined membership of approximately 40,000 scientifically trained professionals.

a National Nutrition Policy. These are presented in order to identify the many considerations to be brought into focus in effective long-range governmental planning and implementation of programs for foods and nutrition in relation to the Nation's health and other national responsibilities.

## I. NEED FOR A STATED NATIONAL NUTRITION POLICY

A stated National Nutrition Policy is needed to ensure that food will be available to provide an adequate diet at a reasonable cost to every person within the United States. Food to provide good nutrition is a fundamental need of every member of society. In order that he may utilize food to greatest benefit, the individual must have some basic understanding of food and nutrition in relation to requirements for health—including information concerning the products which he purchases.

Nutrient *requirements* of the population should be defined and translated into terms of food in developing plans for food production at the agricultural and manufacturing level. The nutritional contribution of foods as well as their economic importance must receive consideration. Agricultural and nutritional policies should be coordinated. The production of sufficient food to fulfill the needs of all segments of the population must be accompanied by an adequate distribution system. The quality and safety of the food supply must be assured by quality control of production and by regulatory controls and surveillance.

A National Nutrition Policy is needed to fulfill our commitments as a Nation—in cooperation with other nations and international organizations—in planning and devising measures for provision of adequate food for the expanding world population. This includes the maintenance of adequate world reserves of food, provision of technical assistance to developing nations, participation in world trade and assistance in provision of foods in emergency situations are important aspects of international nutrition responsibilities.

## II. GOALS OF A NATIONAL NUTRITION POLICY

The goals of a National Nutrition Policy should be to:

1. Assure an adequate wholesome food supply at reasonable cost to meet the needs of all segments of the population. This supply to be available at a level consistent with the affordable lifestyle of the era.
2. Maintain food resources sufficient to meet emergency needs; and to fulfill a responsible role as a Nation in meeting world food needs.
3. Develop a level of sound public knowledge and responsible understanding of nutrition and foods that will promote maximal nutritional health.
4. Maintain a system of quality and safety control that justifies public confidence in its food supply.
5. Support research and education in foods and nutrition with adequate resources and reasoned priorities to solve important current problems and to permit exploratory basic research.

### III. MEASURES TO ATTAIN GOALS

To attain these goals, it is essential to:

1. Maintain surveillance of the nutritional status of the population and determine the nature of nutritional problems observed.
2. Develop programs within the health care system that will prevent and rectify nutritional problems.
3. Assist the health professions in coordinated efforts to improve the nutritional status of the population through the life cycle.
4. Develop programs for nutrition education for both health professionals and the general public.
5. Identify areas in which nutrition knowledge is inadequate, and foster research to provide this knowledge.
6. Assemble information on the food supply—including food production and distribution—and provide a nutritional input in the regulation of foreign agricultural trade.
7. Determine the nutrient composition of foods and promote and monitor food quality and safety.
8. Cooperate with other nations and international agencies in developing measures for solving the world's food and nutrition problems.

### IV. PROGRAMS NEEDED TO MEET OBJECTIVES

Seven major phases are needed; they are:

1. The nutritional status of all segments of the United States population should be monitored continuously with periodic national reporting of:

- (a) the prevalence of specific nutritional problems;
- (b) the effects of various preventive and remedial programs on nutritional status and on prevalence of nutritional problems; and,
- (c) food consumption of various population groups.

2. Nutrition programs should be established and expanded in the Health Care system, giving consideration to the following points:

(a) Maintenance of good nutrition in all segments of the population should be promoted through Health Care Centers—clinics, hospitals, neighborhood centers—which should be responsible for nutritional diagnosis and counselling. Good nutritional practices should be an integral part of services in nursing homes, day care centers, orphanages, prisons and other institutions.

(b) Alleviation of malnutrition in disadvantaged groups is of high priority. These groups include the poor, those at high risk, infants, pregnant women, the elderly, migrant workers and other minority groups. Programs may include food stamps, commodity distribution, food supplements, and school feeding programs.

(c) The prevention and therapy of nutritional problems is a *continuing* public health responsibility. Current problems include anemia, obesity, delayed growth and development of children, mild or potential vitamin deficiencies, and nutritional problems related to a wide variety of disease states such as coronary artery disease, malabsorption syndromes and other gastrointestinal

disorders, inborn errors of metabolism, diabetes, allergic conditions and renal disease.

(d) Programs should include provision of a nutrition component in all Health Care Centers in all geographic areas. Nutrition services should be under the direction—at some level—of a professional with competence in nutrition or dietetics.

Provision of nutrition services should be included in plans for benefits provided by National Health Insurance.

(e) Nutrition centers of excellence for diagnosis, treatment, research and training should be established in various parts of this country.

3. Nutrition information should be incorporated into all levels of formal education.

(a) In schools: Nutrition should be a basic curriculum requirement in all elementary schools and high schools.

The School Lunch Program should be used to assist in nutrition education through correlation with teaching in the classroom.

All teachers should receive training in nutrition.

Courses in nutrition should be available in colleges and universities.

(b) Training of nutrition professionals and paraprofessionals, physicians, dietitians, public health nutritionists, dentists, nurses, veterinarians, social workers, physical education teachers and health educators should have high priority. Both undergraduate and postgraduate training is needed, as well as continuing education.

Medical schools should be encouraged to establish faculty and resources for teaching nutrition in clinical as well as pre-clinical departments; and nutrition training and services should be promoted in hospitals and clinics.

The Land Grant Universities should continue and expand training in the areas of food and nutrition.

(c) Sound nutrition information for the general public should be carried out through all components of the communications media—including Federal, State and local departments of education, cooperative State Extension Services, colleges and universities, community agencies, industry and the mass media.

Food labeling and food advertising can contribute significantly to nutrition knowledge. Labeling and advertising regulations should require presentation of truthful nutrition information in all instances where nutritional claims are made.

Nutrition education can be incorporated in such programs as the Food Stamp Program and in supplementary feeding programs.

4. Nutrition research should be supported at all levels. Basic and applied research in nutrition are both essential for solving current and future problems.

Research should be supported in colleges and universities, in nutrition centers of excellence, in health care facilities, in special institutes, in industry and in the Federal agencies. Support for training of nutrition scientists to conduct such research should have high priority.

Among the agencies with responsibilities for nutrition-related research are the Food and Drug Administration, the National Institutes of Health, the Department of Agriculture, the Department of Defense, the Veterans' Administration, the Department of Commerce and the Environmental Protection Agency.

Research support should be provided for all areas of food production, processing and use.

The experiment stations in the 50 States have responsibilities for research in both food science and experimental nutrition. Food science and human nutrition deserve especially high priorities.

Coordination of nutrition research activities among all departments and divisions of the government is highly desirable.

5. Food production and distribution in the United States and in other parts of the world should be considered from the standpoint of nutritional policy.

Increased agricultural production should be encouraged, including greater yields, and development of new genetic types of food with improved nutrient content.

More beneficial distribution of foods should be planned.

Food reserves should be established and maintained.

Priorities in international trade in agricultural commodities should be planned to make the best use of supplies to meet the needs in the United States and in developing countries of the world.

6. Nutrient composition, quality and safety of foods deserve continuous study and assessment.

The development of wholesome new foods such as formulated, fabricated and convenience foods, as well as the fortification of foods should be encouraged.

Informative food labeling can aid in educating the consumer in nutrient, and can assist him in his choice of foods, so that a good diet can be obtained.

Research in food science and technology has an important role in the total nutrition program and is a responsibility of Government, as well as of industry and academic institutions.

Regulation of food quality and safety is an essential aspect of a National Nutrition Program. Periodic review of regulatory controls permits changes as needed.

Research in all aspects of the quality and safety of foods should receive high priority.

7. Programs to fulfill the responsibilities of the United States as a Nation to other countries, in cooperation with national and international agencies, should be a permanent part of the Nation's policy.

In view of the high prevalence of malnutrition throughout the developing countries of the world and the rapidly expanding population, the critical areas are:

- population control and family planning;
- food production;
- food science and technology;
- economic development;
- knowledge of nutritional science and applied nutrition;
- social and cultural changes; and,
- education.

These areas required financial support and technical assistance by this country, other developed nations and international groups, industry, foundations, philanthropic organizations and private citizens.

## V. REQUIREMENTS TO ESTABLISH AND EFFECTIVELY IMPLEMENT

An effective plan for establishing and implementing a National Nutrition Policy should provide for the following:

1. Formation of a food and nutrition policy board at a high level in the Government.

2. Establishment of an Office of Nutrition or a National Nutrition Center to develop plans and programs for implementation of a National Nutrition Policy.

An Advisory Nutrition Council or Board composed of representatives of various organizations with special competence in dealing with food and nutrition problems should be formed to advise the Office of Nutrition (National Nutrition Center) in planning and evaluating a National Nutrition Program.

Responsibilities and activities of the Office of Nutrition (National Nutrition Center) should include:

- (a) Identification and coordination of food and nutrition programs in various governmental agencies.

- (b) Provision for continuing food and nutrition surveillance.

This should include: (1) monitoring of the food supply; (2) continuing general surveys of the nutritional status of the population; (3) in-depth studies of specific public health problems related to nutrition; and, (4) continuing accumulation of information relative to food consumption and food composition.

Some or all of these activities could be assigned to appropriate organizations or agencies.

The surveillance system should be designed to utilize not only survey sources but also centers of health services and education, monitoring efforts of Federal and State government agencies, health insurance programs and similar sources of reliable information.

- (c) Establishment of a nutrition information service.

Nutrition resources and programs for information gathering at State and local levels should be supported and strengthened. State and local nutrition offices should be incorporated into a nationally coordinated nutrition information service.

- (d) Periodic evaluation of nutrition policy and program.

3. Development of centers of excellence for food and nutrition research and for the diagnosis and treatment of nutritional health problems.

4. Establishment of programs for the support of extramural research and education in universities, research institutes and similar organizations—including special support for centers of excellence in research and education in human nutrition.

5. Development of programs and resources to encourage, nationwide, the incorporation of sound information concerning foods and nutrition into public school education at all levels from preschool through high school, college and university curricula, and into materials used by the communications media.

Broad support should be provided for teaching nutrition in health professional schools—medical, dental, public health and allied health professions—and in colleges of teacher education.

6. Coordination of international aspects of the National Nutrition Program with the Agency for International Development, international programs of other branches of the Federal Government, also with international agencies such as the World Health Organization, the Food and Agriculture Organization and others.

Finally, the National Nutrition Consortium urges responsible officials and Members of the Congress to consider such policy as a whole, and give appropriate priorities to necessary legislation and funding.

## APPENDIX KK

### BACKGROUND PAPER ON THE RECOMMENDATIONS OF CONFERENCES AND GROUPS RELATED TO NATIONAL NUTRITION POLICY, 1917-1974, FOR NATIONAL NUTRI- TION POLICY STUDY HEARINGS

[U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,  
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## INTRODUCTION

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In preparing recommendations and seeking solutions to the nation's nutrition problems and needs, it is often helpful to view them in historical perspective—that is, in relation to the concerns and problems identified over time, the recommendations and solutions proposed, and the actions or programs which were implemented as well as those which “fell by the wayside” with no viable response or followup.

This summary paper highlights some of the recommendations related to nutrition at the national level made over the last half-century by various agencies, groups and organizations. In trying to evaluate their historical significance, it is helpful to recall the climate of the times in which they were issued or set forth. In other words, the concerns, problems and trends affecting the nutritional health of the nation, the resources available and the state of the art prevalent at any one time. Reflecting on the *source* of the recommendations as well as on the *possible rationale* which led to their existence is also useful.

The selected recommendations are presented by decades with a few comments relative to the events of the time which may have influenced their development. Because of limitations on the time available for compiling and editing this material, it was not possible to complete an exhaustive literature search. Rather, selected highlights are presented with the hope that they will help to deepen one's appreciation of the evolution of nutrition programs and services in the United States and one's understanding of the recurring themes of nutritional concerns which have spanned the years.

### 1917–1929

Awareness that many of the conditions responsible for rejection in Selective Service examinations were attributed to causes that might have been prevented or corrected by proper nutrition in early life and a desire to make conservation and efficient use of available food a national habit led to the calling of several major conferences related to foods and nutrition during the World War I years.

In April 1917, the Secretary of Agriculture called a meeting in St. Louis which was attended by State Commissioners of Agriculture, representatives of the Land Grant Colleges and the press. A similar conference was held at Berkeley, California, on April 13. Recommendations included the conservation of grains, meats, fats and sugar through campaigns to educate the public to eat more vegetables and dairy products.

In June and July 1917, The United States Food Administrator called representatives of agencies through which groups of people might be reached into conferences in order to initiate the food campaign to familiarize the American people with nutrition concepts.

In 1918, the *Children's Year Campaign* was launched under the leadership of the Children's Bureau and the Council of National Defense. This year culminated in a series of nine conferences called by the Children's Bureau in cities across the nation to formulate "minimum standards for the public protection of the health of mothers and children." Among minimum recommendations adopted by the conferences were the following relating to food and nutrition:

Adequate diets were to be taught by home visits to mothers of infants and pre-school children.

Centers for child health supervision were to include a nutrition clinic.

Open-air classes and rest periods should be established for pre-tuberculous and certain tuberculous children, and children with grave malnutrition.

In schools with more than 1,000 children, a full-time school nurse should give instruction in personal hygiene and diet, and make home visits to instruct mothers in principles of hygiene.

Treatment should be provided for all remediable defects, diseases, deformities and cases of malnutrition.

Nutrition classes should be conducted for physically subnormal children and mid-morning lunches or noon meals provided when necessary.

Adolescents should have an ample diet with special attention to growth-producing foods.

### THE 1930's

These years witnessed an expansion in the knowledge of human nutrition, child growth and development, disease prevention and scientific agriculture. The serious economic depression eclipsed many other events of the time as did the periods of drought which threatened the adequacy of the nation's food supply.

In 1930, the *White House Conference on Child Health and Protection* was called. Among its tasks was "to make recommendations as to what ought to be done and how to do it, in order to make optimal nutrition possible for the children of our country." Nutrition received major attention and eleven recommendations related to nutrition service for child health and protection were made. These were:

That nutrition work be recognized as a basic part of every district, county or community program for child health and protection.

That nutrition programs in public health and welfare agencies and educational systems be organized under accepted medical direction.

That a determined effort be made to create a nutrition consciousness through magazines, newspapers, exhibits, lectures, literature, the radio, etc.

That one or more qualified nutritionists, either on full-time or part-time, be connected with every child health program.

The nutrition service in a community be intelligently co-ordinated.

That every worker employed as a nutritionist have training in nutrition, chemistry of food and allied sciences, child psychology, and methods of teaching.

That facilities be developed for the training of nutritionists in preventive measures, social problems, food economics, etc.

That schools training public health and welfare workers other than nutritionists provide not less than fifteen to twenty hours of instruction covering nutrition fundamentals, food economics, and budgets.

That importance and value of nutrition work in the child health program be demonstrated.

That nutrition service be made available to communities unable to finance a complete nutrition program through stimulation of private and public agencies.

That a suitable committee be organized to further investigate the nature and scope of work which is being done in nutrition and the results obtained.

In October 1933, a *National Conference* was called by the Secretary of Labor to consider plans for stimulating nationwide interest in health of children in families affected by the economic depression.

Reductions in appropriations for child health services were known to be serious, and available evidence indicated an increase in the number of undernourished children and a decrease in the amount of medical care being given in some states and local communities, especially during the winter of 1932-33.

Recommendations from this conference included the institution of a nationwide program to locate undernourished children and to formulate methods of overcoming malnutrition by more adequate feeding and medical care. It was understood that states would modify suggestions made in accordance with their individual needs.

Concern and interest in nutrition was not confined to the United States only. In August 1937, a meeting was called of the Mixed Committee of the League of Nations on the Relation of Nutrition to Health, Agriculture, and Economic Policy.

Set up in 1935, the Mixed Committee on the Problem of Nutrition studied both the health and economic aspects of the nutrition problem. It included agriculture, economists and health experts, representatives of the Advisory Committee on Social Conditions, the International Labour Organization, and the International Institute of Agriculture. Its recommendations to Governments included the following:

Encourage and further support scientific study of nutrition problems with a view to ascertaining optimum nutrition for each country.

Take appropriate measures to ensure that the latest information about nutrition is included in the teaching of medical students and medical practitioners.

Conduct vigorous policy of education on popular nutrition for the instruction of the general public in this subject.

Support Health Organization of League in its technical committees work as well as in fields of public health and preventive medicine.

Facilitate and promote international cooperation in education.

Consider steps needed, at public charge or otherwise, to meet nutritional needs of low-income sections, particularly the means by which they might ensure that an adequate supply of food, espe-

cially safe milk, should be available for expectant and nursing mothers, infants, children, and adolescents.

Consider steps needed to meet nutritional needs of adults, unemployed or otherwise in distress.

Take steps to make food supplies available at prices within reach of all classes in the community while at the same time safeguarding the interests of the producers.

Set up standards of reference and specifications for grading food of all kinds according to quality.

Consider whether modification of their general economic and commercial policy is desirable in order to ensure adequate supplies of foodstuffs and in particular, to assist the reorientation of agricultural production necessary to satisfy the requirements of sound nutrition.

Coordinate work done by different authorities which affects nutrition of the people and in the absence of central authority, set up a special body for this purpose.

Collect information on food consumption.

### THE 1940's

The forties brought continued advances in nutrition science, including the release of the first recommended dietary allowances, and in food technology, significant changes in family life with more women entering the labor force and the many adjustments associated with World War II.

In 1940, the *White House Conference on Children in a Democracy* was held.

Coming after ten years of economic depression, this conference focused on the interplay of the concept of democracy and the consideration of particular needs of children. Nutrition recommendations forthcoming from this conference included:

Nutrition service when needed should be provided as a part of complete service for maternity care and care of newborn infants.

More effective nutrition services should be included in preventive and curative medical services for all infants and children through private resources or public funds.

The nutrition highlight of this decade was the landmark *National Nutrition Conference for Defense* held in Washington, D.C. in May 1941.

With the world situation stimulating interest in food and nutrition not only as a defense measure but as a part of a long time plan for the development of a stronger, healthier nation, the President convened the 1941 conference with the hope that it would "make recommendations to solve nutrition problems at national, state and community levels as an essential part of defense and as a part of a continuing national health and welfare program." During the sessions of the conference a State of Unlimited National Emergency was proclaimed and the conference pledged its full support in mobilizing national resources to meet the national emergency in addition to urging the following twelve lines of attack on malnourishment.

The use of Recommended Dietary Allowances as a general goal for good nutrition in the United States and as a yardstick by which to measure progress toward that goal.

Translation of the Recommended Dietary Allowances and other technical material into terms of foods and meals suitable for different economic levels and culture preferences.

Research to add to present knowledge of nutritional needs of individuals, nutritional status of groups, etc.

More widespread education of doctors, dentists, social service workers, teachers, and other professional workers in the newer knowledge of nutrition.

The mobilization of every educational method to spread the newer knowledge of nutrition among laymen.

Mobilization of all neighborhood, community, state and national organizations and services that can contribute in any way to raising the nutritional level of the people of the United States.

Vigorous and continued attack on the fundamental problems of unemployment, insecure employment, and rates of pay inadequate to maintain an American standard of living.

Full use of any practical devices, such as the so-called Stamp Plan, free school lunches, and low cost milk distribution which could bring nourishing, adequate meals to those who could not otherwise afford them, and at the same time help to distribute food surpluses at a fair return to the farmer.

Efforts to improve food distribution, including processing, marketing, packaging, and labeling, to bring about greater economies for the consumer.

Encouragement in all practical ways of greater production by agriculture of the foods needed in more abundance, according to the newer knowledge of nutrition in the average American diet.

Equally, encouragement in every practical way of more production for home use by rural people, especially those at low income levels.

The "enrichment" of certain staple food products, such as flour and bread, with nutritive elements that have been removed from them by modern milling and refining processes.

Except for food stamps and school lunch, the recommendations of this conference were well implemented. Due to food shortages, shortages of personnel and full employment, the food stamp plan was discontinued on March 1, 1943. The school lunch program was continued, but because of world need for food during World War II and the post war period, the program was not expanded. The National School Lunch Act, approved June 4, 1946, established this program on a continuing basis with an annual appropriation for cash grants to the states and bulk purchases by the United States Department of Agriculture for distribution to participating schools. The Abundant Foods Program, later known as the Plentiful Foods Program, an informational service, was begun in 1945. As a result of the cooperative interagency activities undertaken during the war, a nutrition planning committee made up of representatives of various federal agencies concerned with field activities in nutrition was established.

In 1942, the *Committee on Nutrition in Industry, National Research Council*, developed several recommendations relating to the diets and nutrition of defense workers. These included:

Nutritious meals of natural foods at prices the workers are accustomed to and can afford to pay should be made available in all

plants engaged in production for war or defense purposes, except in small plants where the worker may obtain such means from private sources in the free time at his disposal. Any meal served in the plant should contribute at least one-third of the daily requirements of specific nutrients recommended by the Food and Nutrition Board of the National Research Council.

The practice of serving food between meals to workers has given good results and is recommended. Milk, fruit and tomato juices are to be preferred as beverages, and other foods which are served should include the necessary nutrients. Thus, when bread is served it should be enriched white bread or a whole grain product.

Choice of foods served in the plant should be determined by a trained dietitian or nutritionist. Brief study of workers' diet will enable the dietitian to make up menus calculated to compensate for the ordinary inadequacies. The employment of a dietitian or nutritionist by the plant is recommended.

Suitable educational material should be presented in connection with cafeteria service or supplementary lunches to stimulate acceptance of the meals planned or the selection of good meals when there is a choice of foods.

Measure should be taken by the appropriate subdivision of government to condition nutritionally those classes of the population which are likely to become workers in war or defense industries.

It is recommended that adequately controlled studies be conducted in selected war or defense industries to determine the facts concerning the influence of diet and nutrition on health, working capacity, incidence of accidents, absenteeism and the psychological state (industrial unrest).

In April 1945, the Food and Nutrition Board, National Research Council, adopted a "Recommendation for Peacetime Continuation of the Industrial Nutrition Program." Activities suggested were the continuation of a governmental nutrition program for industrial workers beyond the conclusion of the war with the objective of protection of the health of the worker and his family. It was recommended that such a nutrition program

Be integrated with other industrial hygiene and medical programs and developed cooperatively with state and local health agencies.

Be correlated with similar nutrition programs for other groups in the community.

Include the development of effective educational techniques and the stimulating and sponsoring of research on food needs, food habits and the nutritional status of workers (with the needs of women workers calling for particular attention).

Include, whenever possible, surveys of the need for supplementation of the workers' diets.

Although not a conference per se, the *Survey of Nutrition Programs and Organization in Federal Agencies* conducted in 1945 by the Bureau of the Budget is worthy of mention.

This survey explored the question of the type of nutrition work which the Federal Government should undertake on a long term basis, and how that work should be organized. Expanding prewar plans for

raising national nutritional levels, the federal war nutrition program brought together the several public and private agencies concerned with nutrition at federal, state and local levels of government and attempted to stimulate and link together and to ascertain administrative accomplishments of the program which should be conserved for the future and to segregate any phases of the program suited only for war-time. Recommendations included the following:

Arrangements should be made for continuing the coordination of federal agencies on a long-term basis.

Federal agencies interested in the effectiveness of Federal-State health and education programs, ought to encourage the development of state interagency coordinating committees.

The need for coordinating nutrition programs of the bureaus and offices remains after the expiration of the War Order assigning such responsibility to the War Food Administrator. Peacetime responsibility for leadership should be clearly assigned by Executive Action.

The Federal Interagency Committee, made up of representatives of each of the federal agencies having field programs should be retained because of its long term possibilities and should form several subcommittees.

State agency coordination is desirable and ought to be continued, probably by a state interagency coordinating committee. Such committee should utilize the subcommittees and designate an individual to serve as secretary or staff assistant.

Federal bureaus and offices should encourage continued experimentation by the state agencies with various methods for developing the community programs designed to raise nutritional levels.

Some suitable arrangement is needed whereby national food industry advertisers can submit their advertising, preferably on a voluntary basis, to a central point in the Federal Government for clearance.

Federal bureaus and offices should contract for National Research Council's services, as needed, on a specific project by project basis.

### The 1950's

The influence of nutrition and health on the productivity of population groups was becoming more appreciated. A revolution in productivity resulted in mounting agricultural surpluses. Food science and technology was moving ahead. Developments in transportation and communications were creating a still smaller world. Unemployment was less of a problem. More women were working and food consumption patterns were changing. The United States was becoming more aware of the needs of more of the groups at high nutritional risk in the population such as the elderly and the ill.

In 1950, the *Subcommittee on Diagnosis and Pathology of Nutritional Deficiencies, Food and Nutrition Board, National Academy of Sciences*, made the following recommendations to increase the interest of both state and local health agencies in the opportunities for service to the public along nutritional lines and facilitate the process of getting nutrition education to both the general practitioner of medicine and the lay population.

The full application of the science of nutrition to public health requires the integration and coordination of activities relating to diets, general and special, to education, and to medical nutrition.

Ideally, all nutrition activities should be coordinated in a specific unit of the health department under the leadership of a physician with special training in nutrition and with the assistance of nutritionists and a biochemist.

Nutrition units would assume responsibility for initiating and directing programs appropriate to deal with nutrition problems in the state. They should serve in a consultant and advisory capacity to all divisions of the health departments, supervise the training of personnel in various aspects of nutrition and cooperate with agencies throughout the state in formulating a broad nutrition program.

A state nutrition council should be of great assistance in program planning and coordination of effort.

The nutrition unit of the state health department has a major responsibility in developing a program and services which are adequate for the protection and promotion of nutritional health of the people.

That same year, the *Midcentury White House Conference on Children and Youth* was called. The purpose of this conference was to consider how we can develop in children the mental, emotional and spiritual qualities essential to individual happiness and to responsible citizenship and what physical, economic and social conditions are deemed necessary to this development. Among the numerous recommendations was the following specifically related to nutrition:

That school lunches be provided and that children unable to pay for their lunches be furnished them free, without being differentiated from the children who pay.

In 1952, the National Food and Nutrition Institute was held in Washington. The eleven years that had elapsed between this conference and its predecessor apparently saw great improvement in the nutritional status of the United States population. Representatives of the medical profession reported that it was difficult to find a clinical case of nutritional disease to study. The incidence of vitamin deficiency disease began to decline soon after the national program for the enrichment of white bread was inaugurated.

The conference, basking in these optimistic reports, turned its attention to obesity, the degenerative diseases, and combating food quackery. However, certain other problem areas were noted, including the need for more research on standards for evaluating nutritional status, the slight but ominous decline in the production and consumption of dairy products, and the need for a continuous educational effort, particularly with school children, to maintain nutritional awareness in succeeding generations.

Recommendations forthcoming from this conference included:

That greater quantities of nonfat milk solids be channeled into human consumption and more effective use made of this valuable food.

That more attention be directed to the consumption of foods that are natural sources and good carriers of calcium and that enrichment of bread with calcium be considered.

That more attention be given to inclusion of nutrition information in food distribution programs.

That there be more coordination between federal, state and local agencies in relation to emergency food planning.

That attention be given to multiple approaches to achieving good nutritional status, e.g., adequate income, enrichment and fortification, good health care, adequate therapeutic services, etc.

That more careful planning be done for effective evaluation of nutrition education.

That more training in nutrition be provided for school administrators, teachers, etc.

That more attention be directed to the role of nutrition in dealing with chronic disease.

That consideration be given to changing the methods of conducting hearings on food standards.

That food additives be shown to be safe before used in foods.

That nutrition programs be coordinated for maximum effectiveness.

In April 1957, the *Third National Nutrition Education Conference* was convened with the theme of increasing the effectiveness of nutrition education. Suggestions for improvement in nutrition education included training in nutrition education for teachers, health workers, social workers, and school lunch personnel; concentration of effort on preadolescent youth; and correlation of nutrition education with general education, with peer group leaders such as athletes, with participatory democracy in education, and with enjoyment of food. The more effective use of the mass media was stressed and attention was focused on accommodating desirable nutritional patterns to ethnic and socio-cultural food customs. At several sessions the question of the effect of advertising on food consumption patterns was raised, for example: "It is really very, very interesting as well as appalling sometimes to see how much parents' selection of various foods is determined by children's requests based on what they hear on television or radio."

Specific recommendations were as follows:

That the United States Office of Education encourage states to make nutrition education a part of the elementary teacher's preparation. That information as to where this is now being done be secured and published in *Nutrition Committee News*.

That a conference similar to this one be called for leaders in elementary and secondary education in order to explore ways of making nutrition education more effective and incorporating it into the teacher education program.

That the Interagency Committee consider the advisability of sponsoring or promoting regional conferences in nutrition education followed by state conferences.

That the conference go on record as favoring more emphasis on nutrition education during medical and dental training.

That more nutrition information in simple, nontechnical language be made available to the lay public in the form of popular leaflets and magazine articles.

That each Nutrition Council serve as a clearing house on information and misinformation on nutrition and take responsibility for keeping the public informed.

That state and local nutrition committees sponsor and encourage additional refresher courses in nutrition.

In 1958, the *National Conference on Nursing Homes and Homes for the Aged* was called by the Public Health Service. This conference was concerned with the increasing number of the Nation's chronically ill and infirm aged being cared for in nursing homes and homes for the aged. Fourteen recommendations were made to improve nutrition services for those who use such facilities. These included the following:

That nutritional needs of persons should be met in accordance with the Recommended Dietary Allowances adjusted for the population concerned. At least three meals per day should be provided with not more than a 14-hour span between a substantial evening meal and breakfast.

That food service should meet the nutritional needs of the patients and residents through foods. Nutrient concentrates should be given only on the prescription of a physician.

Any processed foods served should be processed by safe and approved methods—foods should be prepared in ways that conserve nutritive value.

The licensing agency should assume responsibility for education and training in all phases of food service for all personnel in nursing homes and homes for the aged.

A national project should be conducted to develop a cost accounting system specifically for such facilities and appropriate forms developed.

Further studies of nutritional requirements of the aged in these facilities should be encouraged.

### The 1960's

In this interval poverty in America was rediscovered. The "People Left Behind" in the general increasing affluence were not immune to the revolution of rising expectations. Measures during the 1960's to upgrade the diets of the poor included the re-establishment of the food-stamp plan and the expansion of the school lunch program. That these programs failed to reach the poorest of the poor had become evident to the American public through press coverage of several investigations culminating with the 1968 report, "Hunger, U.S.A." by the Citizens Board of Inquiry into Hunger and Malnutrition in the United States. More emphasis was being given to research: chronic illness was a problem of an increasing number of Americans, and the use of mass media was growing, etc.

In 1960 the *White House Conference on Children and Youth* was called with a theme "to promote opportunities for children and youth to realize their full potential for a creative life in freedom and dignity." This conference's recommendations relating to nutrition included the following:

Include health education and nutrition in the school curriculum at the local level.

Develop information programs to educate adolescents in sound nutritional attitudes and practices.

Emphasize to adolescent girls the importance of nutrition in preparation for motherhood.

Inform parents and others in charge of feeding children, of nutritional requirements as recommended by professional authorities for the growth and development of children.

Alert parents to dangers of fad diets and excessive intake of certain vitamins or supplements or "health foods."

The Year 1961 *Brought the First White House Conference on Aging*. An awareness of the growing importance of the needs and problems of the Nation's older citizens led to this nationwide citizens' forum designed to focus public attention on the problems and potentials of older Americans. Among the recommendations relating to nutrition were:

Dietary, feeding, and dental services—including public education programs aimed at the prevention and relief of nutritional problems which are a major preventable cause of disability in the aged—should be considered among the services in organized community programs.

Nutrition programs should be established as a part of health maintenance for the aged.

Education for older adults should help them to better understand their peculiar health needs as older individuals, including instruction in dietary requirements.

All health personnel (including nutritionists) should have knowledge of the process of aging and its health implications.

The impact of the presentations of the mass media on habits of nutrition should be more fully assessed.

Public Health Service and the Office of Education should devise more effective means of disseminating to the community and school population, factual information on nutrition.

In 1961 a conference was held on *The Role of State Health Departments in Nutrition Research* sponsored by the American Public Health Association and the Association of State and Territorial Public Health Nutrition Directors. It focused on exploring the needs in nutrition research as related to public health and defining the role of the State Health Departments in such research. Recommendations included:

Recognition by State health officers that nutrition enters into many health programs and should receive appropriate consideration including the designation of a competent staff member to coordinate research activities, appointment of an nutrition advisory committee to assist in formulating research plans and coordination and appropriation of moneys to support health research related to nutrition.

Preparation of well-qualified nutrition research personnel for leadership and training in research methods for nutrition staff.

Integration of nutrition research with ongoing or proposed health programs and possible use of health department as community laboratory by university research group.

In 1963 the Food and Nutrition Board, National Research Council issued *Recommendations on Administrative Policies for International Food and Nutrition Programs*.

Reorganizing the need for effective action programs to meet urgent food and nutrition deficiencies in many developing areas of the world, the Board's recommendations included:

The institution and support of a comprehensive program in

nutrition and food technology by the Agency for International Development and other federal agencies authorized to meet this critical need for a coordinated and sustained program and appointment of two top level executives to insure coordination with other government agencies.

The establishment of a small, high-level advisory committee or commission to assist the above executive.

The provision for support of the Interdepartmental Committee on Nutrition for National Development and for followup programs to build on their initial surveys.

The primary focus in United States foreign policy as it relates to foods and nutrition being on prevention of serious malnutrition among children, particularly from age of weaning to five years.

A diligent regard for encouraging food production for domestic use or export.

Greater flexibility and coordination in the use of Public Law 480 funds, particularly in support of research that would facilitate action programs and training of personnel to serve within newly developing areas.

The provision of more guidance in food processing and distribution as well as in sanitation and pure food control to newly developing countries.

Early in his administration President Nixon called the *White House Conference on Food, Nutrition and Health* held in 1969 which was intended to focus national attention and national resources on our country's remaining and changing nutrition problems. The full conference participation of over 3,000 persons provided the broadest possible coverage ranging from industry representatives to the very poorest themselves. Major concerns were:

1. How do we insure continuing surveillance of the state of nutrition?
2. What should be done to improve the nutrition of our more vulnerable group?
3. How do we monitor the continued wholesomeness and nutritional value of our foods?
4. How do we improve nutrition teaching in our schools and what programs of popular education do we need to better inform the public of proper food buying and food consumption habits?
5. What should be done to improve Federal programs that affect nutrition?

The conference sessions resulted in thousands of recommendations which are summarized below:

Establishment of a system for surveillance and monitoring of the state of nutrition of the American people. In addition to this fact-gathering activity for planning and assessing the effectiveness of nutrition services, better coordination of nutrition at the national level, development of a national nutrition policy and focus of responsibility at a high level were also recommended.

Giving more attention to the Nutrition of Vulnerable Groups. Emphasis was given to the need for feeding programs and income support for vulnerable groups, especially among the poor, including pregnant and nursing women and infants, children and adolescents, the aging, the sick, and special disadvantaged population

groups. Also emphasized were the desirability of more attention to nutritional care in health programs; the need for nutrition education (but not as a replacement for food or money); and the overhaul of the adequacy of nutrition manpower to deliver nutrition services.

Action by industry and government to provide more product information to the public and improve the adequacy, quality and safety of the food supply. Called for was simplification of legislation; greater innovation by industry in the development of new and better foods; insuring better protection of the consumer including improved food labeling; and expansion of research concerned with food production.

Expansion of Nutrition Education Programs. Emphasis was given to the development of a comprehensive and sequential program of nutrition education as an integral part of the curriculum of every school; improved preparation of all disciplines responsible for nutrition education; effective involvement of parents and community; support of training programs for nutrition manpower; development of a large scale nutrition information campaign and the improved use of mass media techniques.

Improving the Food Delivery and Distribution System. Recommendations related to basic improvements in the clarification, administration, and level of support in various food programs; more consideration of family as the basic unit for the delivery of food; improvement and expansion of the school feeding program to reach all children and better meet community needs, and more coordination and unification of food service operations.

Encouraging and supporting voluntary action by private groups and community based organizations. Suggested action related to an expansion of vocational-technical training programs to improve skills for job earning; giving high priority to agriculture modernization efforts; development of various approaches to encourage development of better food store facilities in low-income areas; more coordination between industry, community, and consumer organizations to provide meaningful information in foods and nutrition and the development of a Nutrition Communications Council.

Some parts of these recommendations have been implemented to a greater or lesser degree. To cite a few accomplishments, there has been a liberalization and expansion of the food stamp program and child feeding programs. A start has been made on food delivery programs for the aged. Industry has taken some initiatives in food labeling, open dating, unit pricing, and the marketing of new, highly nutritive foods. Government, together with industry and voluntary organizations has made some strides in the development of a nutrition information campaign and improved use of mass media.

### The 1970's

Since we are less than halfway through this decade, it is impossible to give a complete picture of the period. However, one can see a change in the composition of the population with a declining number of newborn infants and larger numbers of elderly persons; a growing concern with energy supplies and environmental pollution; an in-

crease in leisure hours and growth in recreational pursuits; and a strengthening of international relations, to mention but a few signs of the times.

Followup of the 1969 White House Conference on Food, Nutrition and Health was continued, and additional recommendations relevant to nutrition were forthcoming from numerous conferences and groups such as the following:

The *Committee on Maternal Nutrition*, National Academy of Science in 1970, concerned about the relatively high neonatal and infant mortality rates in the United States, made some important recommendations related to the role of nutrition in human reproduction. These included:

All officials responsible for planning and implementing food programs should bear in mind that their physiological needs place infants, children, adolescents and pregnant women in top priority.

Medical school curricula should be strengthened to provide solid, scientific education in nutrition and its relation to health.

More qualified nutrition personnel should be available in community health services to act as consultants and devise ways of increasing direct services to individuals.

Curricula of elementary and secondary schools should provide for teaching basic facts of nutrition and should encourage children and young people to develop good eating habits and to appreciate the value of a good diet.

Public health agencies and health professions should assume greater responsibility for disseminating sound nutrition information.

Emphasis should be placed on a single standard of high-quality maternity care, including nutrition for all pregnant women.

Research should place more priority on the study of normal physiological adjustments that take place during pregnancy. There should be close cooperation between epidemiologists, laboratory investigators and clinical research workers.

The 1970 *White House Conference on Children* was designed to define problems, seek new knowledge, evaluate past success and failure and outline alternative courses of action.

Recommendations related to nutrition concerned many of the 24 pre-Conference forums and the 4,000 conference delegates. Among action prescribed was the following:

A comprehensive family assistance program based upon a family income standard that will assure reasonable economic security.

Vigorous enforcement of existing standards for nutritive value of foods.

Expansion and improvement of existing food programs.

Inclusion of nutritionists as part of health teams in direct service or consultant roles.

Promotion of mandatory legislation in each state for a health and safety education (including nutrition) to be included in the regular instruction in all schools, public and private, from kindergarten through high school.

Provision of family life education for parents or prospective parents including information on child development, nutrition, home management, etc.

The *White House Conference on Youth* held in April 1971 included several recommendations related to *Hunger and Health Care*. Among them were:

That the President declare a national hunger emergency and use the authority he has to assure that no American in need goes without federal food assistance.

That the Food Stamp Program be expanded to every appropriate political subdivision in the Nation.

That the budget request for fiscal year 1972 Food Stamp Program be increased to \$2.75 billion to accomplish the above recommendations and \$3.5 billion for fiscal year 1973.

That the Department of Agriculture henceforth base Food Stamp value of coupon allotment on the low-cost Food Plan (\$134 per month for a family of four).

That "cash-out" of Food Stamps in a guaranteed income proposal be opposed unless the cash-out is on a dollar for dollar basis.

In 1971, *The White House Conference on Aging* sought to crystallize in national policy the dimensions of a society in which older Americans may "fitly live" while completing the adventure of life with fulfillment and serenity.

Among recommendations for action developed by the Nutrition Section of the Conference were the following:

Allocation of the major portion of federal funds for action programs to rehabilitate the malnourished aged and to prevent malnutrition among those approaching old age.

Establishment and more strict enforcement of high standards with specific regulations for the food and nutrition services provided by institutions and home care agencies that receive any direct or indirect federal funds and the requirement of nutrition services and nutrition counseling as a component of all health delivery systems, including such plans as Medicare, Medicaid, health maintenance organizations, health services, extended care facilities and health prevention programs.

Concentration of government nutrition resources on providing food assistance to those in need with a significant portion of these resources designated for nutrition education of all consumers, especially the aged and to the education by qualified nutritionists of those who serve the consumer.

Offering of a variety of options for meals for older persons and requiring all federally-assisted housing developments to include services or to insure that sources are available for feeding of elderly residents and for those for whom the development is accessible.

Federal government assuming responsibility for making adequate nutrition available to all elderly persons in the United States and its possessions. (Minimum adequate incomes suggested with food assistance used in the interim.)

The establishment and enforcement of such standards as are necessary to insure the safety and wholesomeness of our national food supply, as well as improve nutritive value.

In 1971 an *International Conference on Nutrition, National Development and Planning* was held in Washington, D.C. Participants

came from all over the world with the primary purpose of exploring the place of large scale nutrition programs in planning for national development, particularly in the developing countries and among low-income groups. This conference resulted in some of the following recommendations:

There is a need for changes in the roles of the development planner and of the nutritionist. The modern planner should have a major role in improving nutrition. Seminars, Conferences and interchanges between nutritionists and planners will be very helpful and deserve much further attention.

The training of nutritionists should take into account the wider scope of the nutritionist, including informing and giving technical advice to planners. The training program should provide for study of political science, techniques of decision-making and policy-making, modern managerial methods, etc.

With the theme of Youth-Nutrition-Community, the 1971 *National Nutrition Education Conference* was held in Washington. It was the sixth in a series and focused on the school-aged youth and nutrition in his community. Action recommended at this conference included:

More consideration of the adolescent in terms of his stage of growth and development, rather than by age.

Special attention to those disease problems of youth which have special complications and risks and to those which hold important consequences for later life.

Greater appreciation and understanding of the many factors that influence decision-making by youth relative to nutrition, e.g., the prevalence of misinformation, the distrust of certain youth and adults of the science of nutrition and technology as related to the food supply, etc.

More involvement of youth in planning and presenting nutrition programs and more effort to reach youth not in school with nutrition information.

Inclusion of nutrition in the school curriculum in a sequential manner and more nutrition education of teachers.

In 1972 the *Study Commission on Dietetics*, using the contributions of many people to arrive at specific recommendations related to the problems, opportunities, and needs of the field of dietetics, made six major recommendations. Among them were:

That the basic education of dietetics be designed as a four-year curriculum resulting in a bachelor's degree and including both the didactic learning and introductory clinical experience necessary for beginning practice as a dietitian.

That the undergraduate curriculum be built around the central theme of the Human Life Cycle.

## SUMMARY

As one reflects upon the recommendations relative to nutrition made by some of the conferences and groups convened for well over half a century, one becomes aware of their striking similarity and recurring themes.

We know that varying degrees of progress have been made in implementing some of the recommendations. For excellent reasons, many

have not been acted upon. Others have served to stimulate nutrition programs and services either successfully completed or presently under way.

Perhaps what is needed is a detailed in-depth analysis of why some recommendations have continued to be of concern over a span of years and why satisfactory resolution or action has not been possible. Have the recommendations been practical? Were they deserving of national priority? Was the necessary leadership and adequate resources available? It is by studying such questions as these, that one may unlock the "secret to success" and thus provide a sound basis for a national nutrition policy.

## APPENDIX LL

### RECOMMENDED ACTIONS ON NUTRITION RESEARCH AND DEVELOPMENT\*

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The urgency and complexity of the situation set forth in the President's letter demand that prompt action be taken to establish an effective mechanism within the Federal Government to bring focus and coherence to U.S. food and nutrition policies and programs. This mechanism should include both domestic and international dimensions and should recognize the intimate relationships among food, agriculture, and health systems. Accordingly, serious considerations should be given to the formation of a Federal food and nutrition policy board, a council of appropriate departmental Secretaries, or other comparable body with adequate authority to bring about coordination of Federal research agencies.

Whatever the exact form such device might take, the key need is for essential governmental focus on nutrition as it relates to food supply and problems of population health. Such a focus is essential if coordinated action and research efforts on these important problems are to occur on the needed time scale. In the past, whereas the medical sciences have clearly been in the province of DHEW and the agricultural sciences clearly the responsibility of USDA, nutrition—with its important relationship to each of these applied branches of biology—has belonged unequivocally to neither. The unhappy consequences of this situation have been noted repeatedly.

Inter-agency cooperation requires clarity of leadership. If the proposed device resembles other inter-agency working groups, which in almost any form it must, one question that immediately arises concerns the identity of "lead agency." We believe that there are strong arguments for lodging this responsibility outside the two mission-oriented agencies—USDA and DHEW—that have traditionally held responsibility for the confusingly divided basis of the nutrition problem. The need of the nutritional sciences for strengthened input from the basic sciences, and the historical factors that have made it difficult to say whether health or agriculture should have more say on the question, both argue that leadership should fall outside USDA and DHEW.

The proposed mechanism would direct early and intensive attention to coordination of national and international food and nutrition policies. It would assign responsibilities to appropriate executive agencies for responding to requests for scientific and technical assistance, and would monitor the effectiveness of the U.S. effort in assisting global food and nutrition actions.

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\*Excerpts from a Report of the Food and Nutrition Board, Assembly of Life Sciences, National Research Council, prepared for the Steering Committee of the NRC Study on World Food and Nutrition, National Academy of Sciences, Washington, D.C. 1975.

## APPENDIX MM

### A NATIONAL FOOD POLICY—REQUIREMENTS AND ALTERNATIVES\*

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The authors find that the world has moved from a position of chronic surpluses in the United States and other grain-exporting countries to one of threatening worldwide shortages wherever crop-growing conditions are unfavorable. Both the Government structure and the legislative authority for dealing with food problems in the United States are out of date. Both are equipped to deal with problems associated with food surpluses and are ill-adapted for dealing in a coordinated way with threatening shortages.

The present Administration has issued directives making clear that its policy is market-oriented with a minimum of Government intervention. Yet it yielded to consumer pressure and restricted exports on three occasions in the last 3 years—soybeans to all countries in 1973, corn to the USSR in 1974, and all grains and oil seeds to the USSR and Poland in 1975.

It is doubtful that any of these actions would have been necessary if our national food policy had been better coordinated and all parts of the food industry had been better informed.

A total market-oriented approach to food today is not acceptable. It fails to provide answers for many of the most pressing problems that arise whenever supplies are unusually large or fall somewhat below trend.

If United States is to maximize the economic, political, and social benefits inherent in its food supply capability, we must come forward with an organized, coordinated, and planned national food policy. It can and must be coordinated with our free enterprise, market-oriented economy. It must help guide the free market economy.

The authors propose the development of a 10-year national food policy.

They find a great uncoordinated proliferation of decision-making relative to food policy. As shortage problems have replaced surplus problems, responsibility for decisions relating to food policy have been given to officials other than the Secretary of Agriculture. We now have an almost unbelievable number of boards, committees, agencies, and councils—many overlapping and duplicating—which participate in food policy decisions.

The authors outline three alternative Government structures for dealing with food policy in a coordinated manner:

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\*Summary of a paper prepared for the U.S. Congress, Office of Technology Assessment, Dec. 10, 1975, by E. A. Jaenke & Associates, Inc.

1. A National Food Council of Cabinet officers, headed by a special Presidential assistant for food.

The special assistant to the President for food, with participation of the Council, would formulate national food policy and coordinate all decisions involved in carrying them out.

2. A National Food Agency, headed by a Cabinet-level food administrator.

This agency would have policymaking authority in any matter relating to food. Implementation of the policies would remain in the various departments as appropriate. Under existing authority, the President could create such a new agency, but Congressional action involving legislative concurrence and the necessary appropriations would be required. A Cabinet-level food committee would be established to coordinate decisions taken in other agencies relative to food.

3. A basic reorganization of the Government structure that would gather together the responsibility and authority for a variety of functions relative to food, now scattered in several departments, agencies, commissions, and boards.

The decisionmaking authority in alternative No. 2 is clearly more desirable than under No. 1 and perhaps even more desirable than under No. 3. The top policy makers under No. 2 are free from operational and administrative responsibilities which they would have under No. 3.

All alternatives are preferable to the current chaotic situation.

## APPENDIX NN

[From the Washington Post, Jan. 26, 1976]

### FOOD—"A MAJOR ISSUE FOR DECADES TO COME"

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I would like to endorse your editorial calling for a national food policy. Food—who gets it and at what cost—will be a major social, economic and political issue for decades to come, both here and abroad. Our country has been surprisingly slow in recognizing the need for a national food policy.

In Massachusetts we have developed a food policy that addresses issues fundamental to all states, and to the nation as a whole. We are, as far as I know, the only highly industrialized state to determine that we must deliberately plan to supply our residents with a steady supply of nutritious foods at reasonable prices.

Several trends in the Massachusetts economy prompted me to begin, soon after I took office last January, to develop a statewide food policy.

First, Massachusetts has become increasingly dependent on importing the food its citizens consume. We now import fully 85 per cent of all our food—97 per cent of the meat and poultry we consume; 70 per cent of the eggs; 80 per cent of the milk; and 90 per cent of the potatoes. As populations increase in the states and nations from which we import food, the supply available for Massachusetts consumers will become increasingly scarce and costly.

Second, Massachusetts residents pay between six and ten per cent more for their food than the national average. Much of the reason for the high cost of food in the state is rooted in the high cost of marketing, including transportation and out-of-state processing and packaging.

A third key trend is the decline in farming since World War II. The number of farms in Massachusetts has dropped from 35,000 to 6,000; the number of farmland acres has plummeted from two million to 700,000.

Massachusetts' multi-faceted food policy has emerged from widespread public participation over the last year.

In our food policy, we are promoting programs to assist consumers—a community gardening program that enables people to use state land for gardens; promotion of food co-ops; enforcement of unit pricing in all foodstores; and the operation of a Food Consumers Hot Line to assist families in living within their food budget.

These are just a few aspects of our food policy, but I believe they illustrate the dimensions that any food policy must embrace. I would urge other states and the federal government to develop policies that treat production, distribution and consumption of food as interrelated parts of a comprehensive national food policy.

MICHAEL S. DUKAKIS,  
*Governor of Massachusetts.*

## APPENDIX OO

[From the Congressional Record, Jan. 23, 1976]

### STATEMENTS ON INTRODUCED BILLS AND JOINT RESOLUTIONS

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By Mr. McGOVERN (for himself and Mr. HUMPHREY):

S. 2867. A bill to rename the Department of Agriculture, the Department of Food, Agriculture, and Rural Affairs, to enable the United States to comprehensively plan, coordinate, monitor, and evaluate Federal nutrition policies and programs by creating an Office of Food and Nutrition, requiring an annual national food and nutrition report to the Congress, establishing a unified national nutritional monitoring system and for other purposes. Referred to the Committee on Agriculture and Forestry.

#### TOWARD A NATIONAL FOOD AND NUTRITION POLICY

Mr. McGOVERN. Mr. President, today, on behalf of myself and Senator Humphrey, I introduce legislation which represents a first step toward a national food and nutrition policy.

Basically this bill would do four things:

First. Establish within the executive branch an Office of Food and Nutrition that would be responsible for advising the President on food and nutrition policy, coordinating food and nutrition activities and programs of the Federal Government;

Second. Require the Director of the Office of Food and Nutrition to meet on a biweekly basis with representatives of all departments and agencies concerned with food and nutrition;

Third. Require the annual presentation by the President of a national food and nutrition report that would set goals for food and nutrition policy;

Fourth. Require the creation of a nutritional monitoring system to provide guidance for the Nation's food and nutrition policy by measuring the impact of these programs and policies on nutritional health.

I believe once this mechanism is in place, informed policymaking in the food and nutrition area will be possible.

There is no doubt this legislation is long overdue.

Six years ago the White House Conference on Food, Nutrition, and Health urged that food and nutrition policy be coordinated and focused within the Federal Government.

Events over the last several years show clearly the need to coordinate the Nation's efforts in food and nutrition. Last summer, for example, the Nation witnessed a direct confrontation between the

needs for foreign exchange and détente and the fears of workingmen in our great trade unions that there might not be enough food for home consumption at prices the consumer could afford.

The struggle, which resulted in a delay in grain shipments, involved the intervention of the Secretary of Labor, remarks by the Chairman of the Federal Reserve Board and eventually the negotiation of a trading agreement by the State Department.

This tumultuous episode in policymaking is ample evidence of the lack of forethought and coordination that has recently hounded us in our efforts to adequately feed ourselves and to assist in feeding the hungry overseas.

I have long been impressed with the need to draw together the conflicting interests of the users and producers of food in a way that will foster a creative, equitable food policy that will benefit all.

In 1974, the select committee held a series of hearings aimed at the development of a national nutrition policy that would meet the needs of food consumers and producers, at home and abroad.

In preparation for these hearings, the committee requested from the Nutrition Consortium, an outline for a national nutrition policy. The National Nutrition Consortium represents four major scientific and professional societies, representing 40,000 trained professionals—the American Institute of Nutrition, the American Society for Clinical Nutrition, the American Dietetic Association, and the Institute of Food Technology.

If such a policy was to be implemented, the consortium said, it would be necessary to form “a food and nutrition policy board at a high level in the Government” and to establish “an Office of Nutrition or a National Nutrition Center to develop plans and programs for implementation of a national nutrition policy.”

Since the 1974 hearings, the select committee has issued five staff reports expanding on issues raised at the hearings. They have covered the international food situation; food availability; the food stamp program; nutrition and health and the making of nutrition policy within the executive branch.

A review of these reports supports completely the aforementioned view of the consortium, and numerous other experts whose testimony the committee has received over the years, that greater coordination must be brought to our handling of food and nutrition policy.

In November 1975, the National Academy of Sciences reported, at the request of the President of the United States, on ways the United States can help alleviate problems related to malnutrition and food shortages.

The report concludes that the urgency and complexity of the world food situation “demand that prompt action be taken to bring focus and coherence to U.S. food and nutrition policies and programs.”

The Food and Nutrition Office I propose would supply such a focus.

I am no longer willing to wait for the executive branch to put its administrative house in order. Following last year's Senate-sponsored national nutrition policy hearings, I began my own search for an appropriate mechanism for bringing more coherence, organization, and clarity into the Nation's nutrition policy-making process.

After carefully reviewing the testimony presented at those hearings and the committee reports, I have concluded that the solution does

not lie in the creation of some new superagency or Department of Nutrition, but in establishing a new kind of procedure, designed to cope with the inherent complexity and ambiguity of an interdepartmental activity such as nutrition, embracing as it does, agricultural policy, foreign affairs, budgetary considerations, and the physical and emotional health of the American people.

I am therefore, introducing today this bill, to facilitate and support the interdepartmental planning process as it impacts on nutrition-related programs spread throughout the Government.

My proposed Federal Nutrition Planning and Organization Act represents a new kind of approach to the growing inability of Government to cope with complex tasks which cut across traditional departmental and categorical programs.

To better represent within the executive branch the need to coordinate increasingly complex programs, under more clear-cut goals and guidelines than now exist, this legislation also changes the name of the Department of Agriculture to the Department of Food, Agriculture, and Rural Development. I believe this is necessary to balance the interests of the American farmer and the American consumer, and also to balance urban and rural interests within our economic structure.

The bill I introduce today is founded on the belief, expressed by Franklin Roosevelt in 1943, that all of our food and nutrition policies must be guided by their impact on health. In his letter to the first World Food Conference under the sponsorship of the United Nations, President Roosevelt said:

We know that in the world for which we are fighting and working the four freedoms must be won for all men. We know, too, that each freedom is dependent upon the others: that freedom from fear, for example, cannot be secured without freedom from want. If we are to succeed, each nation individually and all nations collectively, must undertake these responsibilities.

They must take all necessary steps to develop world food production so that it will be adequate to meet the essential nutritional needs of the world population. And they must see to it that no hindrances, whether of international trade, of transportation or of internal distribution, be allowed to prevent any nation or group of citizens within a nation from obtaining the food necessary for health. Society must meet in full its obligation to make available to all its members at least the minimum adequate nutrition. The problems with which this conference will concern itself are the most fundamental of all human problems—for without food and clothing life itself is impossible.

At the heart of my approach is a report to be prepared by the Director of the Office of Food and Nutrition. This report will summarize the nutritional needs of our people and of people in other lands and then detail the policies and programs that are being used to meet these problems. The report will be issued annually to Congress through the President, with his state of the Union message.

The drafting of this report will, for the first time, require the various departments and agencies to enter into continuing discussion about their various food and nutrition efforts.

The goals outlined in the report are to be based on data developed by a comprehensive nutrition monitoring system, also provided for in the bill. This system will provide more thorough and timely measurements of nutritional health needs and also measure the effectiveness of current programs in meeting these needs.

No such current mechanism exists for basing program goals on monitoring results.

The report will also require a discussion of the Administration's goals in relation to the food supply as well as its nutritional assistance and research programs. Plans for production, commercial export, food assistance and reserves would be included, with a discussion of their impact on domestic and international food prices, food availability and nutritional health.

One of the most important parts of this analysis will be the systematic collation of all relevant programmatic information organized in a fashion which would permit the Congress to evaluate the feasibility, practicality, desirability, and cost of the Nation's nutrition-related programs and activities as a whole, without respect to individual agency or departmental responsibilities.

This is the kind of information we in the Congress require in order to adequately perform our constitutional function of setting priorities in the allocation of limited national resources in a responsible manner.

As it is now, we spend much of our time debating the individual merits or defects of specific programs, and rarely are able to see the overall pattern of Federal decisionmaking in and interdepartmental functional area like nutrition policy. I believe passage of this bill would be an appropriate complement to the new budgetary allocation process we have begun in the Congress this session.

The proposed Office of Food and Nutrition would, moreover, have several other functions contributing to a more unified and coherent national policy.

In meeting his responsibilities as the President's primary adviser on food and nutrition policy, the Director of the Office of Food and Nutrition would be required to meet at least on a biweekly basis with a Food Advisory Group, composed of representatives of the departments and agencies concerned with food and nutrition policy. These would include the Secretaries of Agriculture, Health, Education, and Welfare, State, Treasury, Commerce, and Labor, or their representatives from the Office of Management and Budget, the National Security Council, the Central Intelligence Agency and the Council on International Economic Policy, and others.

The Food Advisory Group would provide a means for all departments and agencies to keep continually aware of each other's activities and provide a forum for the creation of coordinated, coherent policy.

The Food Advisory Group would do the work done now by the Food Deputies Group, created under the authority of Executive order.

In addition to facilitating cooperative interaction between agencies, the Director of the Office of Food and Nutrition would have the power to issue "nutrition impact statements," whenever apprised of any development which in his or her view is likely to have a significant impact on nutrient intake, food consumption or food cost. If such authority existed now, a national nutrition impact statement could be issued with respect to the shipment of grain to the Soviet Union.

Such a statement at the time of the original Russian wheat deal would have done much to reduce the feeling of helplessness and governmental irresponsibility engendered in the Congress and among the public.

Nutrition impact statements could also be issued to warn the public of hazardous substances in food or advise the Congress and the people with regard to new discoveries in the nutrition sciences.

The basic thrust of this provision, however, would be to engender a more careful approach among Federal agencies contemplating a major change in policy or programs with a potential impact on nutrient intake, food consumption or food cost and encourage them to coordinate plans with other governmental agencies to insure that any adverse impact could be minimized or avoided. While a nutrition impact statement would clearly fall short of a nutritional veto on policymaking or administration of programs by departments, it clearly would introduce a new element of caution among policymakers.

To reinforce this concept of using such an office as a "trip wire" to alert the Congress and the public of the significance of impending program or policy changes, I am also proposing that the Director have the power to delay for 90 days implementation of new regulations or amendments to regulations having an impact on nutrient intake, food consumption or food cost, unless the Office of Food and Nutrition is given notice of the proposed change prior to its publication. I believe this provision would also encourage more careful and coordinated policymaking by departments.

We cannot continue to operate on the assumption that the increasingly complex threads affecting nutrition policy will automatically weave themselves into a coherent plan.

There is no invisible seamstress repairing the rents in our social fabric caused by rising food prices, or patching holes in our national economy caused by commodity shortages. To believe in such a fantasy is one more way of rationalizing irresponsible government.

This bill represents a major departure from conventional attempts to institutionalize programs or policies. It focuses on the real problem of coordination of the flow of information to decisionmakers, including the Congress—rather than on the illusion that creating some super agency will solve complex tangled issues. This proposal, unfortunately, could not insure an effective national nutrition policy. It would only facilitate one. There is no legislative substitute for concern or commitment on the part of the executive branch of Government.

But I submit that adopting this bill would, for the first time, provide both the executive branch and the Congress with a mechanism for reviewing food and nutrition policymaking in an appropriate context—as an interdepartmental activity embracing elements of many policies and programs.

I would like to add that it is my understanding that Senator Humphrey and others intend to introduce legislation pursuing an intent similar to mine. I welcome all such initiatives and hope that our collective efforts will succeed.

Mr. President, I ask unanimous consent to have printed in the *RECORD* several editorials and articles which appeared recently. They were the result of a report issued by the Senate Nutrition Committee entitled "Nutrition and Health, With an Evaluation of Nutritional Surveillance in the United States." The legislation I am introducing today reflects recommendations made in that report, all of which have received very favorable response. I also ask unanimous consent that the text of my bill be printed in the *RECORD*.

There being no objection, the bill and material were ordered to be printed in the *RECORD*, as follows:

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Federal Nutrition Planning and Organization Act".*

#### FINDINGS

SEC. 2. The Congress finds that:

(a) An adequate supply of safe and nutritious, reasonably priced foods is essential to the well being of the American people.

(b) The formulation of food and nutrition policy is inherently an interdepartmental function.

(c) Food and nutrient intake, with its impact on the health, vitality, and productivity of the American people, is affected by decisions, policies, and activities of various departments and agencies of the Federal Government and by programs which they administer.

(d) A unified and coordinated food and nutrition policy designed to promote the welfare of the American people must reconcile the diverse nutrition-related program objectives of the various departments and agencies of the Federal Government with each other and with other national priorities in order to guarantee that all facets of the national interest are given appropriate priority.

(e) The current low level of worldwide foodstocks, with its simultaneous impact on food prices and food availability in the United States and on commitments made by the United States at the 1974 World Food Conference, makes creation of a unified and coordinated food and nutrition policy more urgent than in the past.

(f) Creation of a single agency responsible for reviewing, coordinating, monitoring, and evaluating food and nutrition policy has consistently been recommended to the President and the Congress for more than five years by diverse panels of experts as a necessary element to achieve a comprehensive national food and nutrition policy.

(g) In order to provide a context for developing a more thorough and coordinated food and nutrition policy, balancing the interests of American farmers and food consumers and also balancing rural and urban interests within the American economy, the Department of Agriculture should be renamed the Department of Food, Agriculture, and Rural Affairs.

#### PURPOSE

SEC. 3. In order to insure a lasting peace by ameliorating the effects of hunger and famine throughout the world as well as to safeguard the health, vitality, and productivity of the American people, it is the purpose of this Act to change the name of the Department of Agriculture to the Department of Food, Agriculture, and Rural Affairs; to require all departments, agencies, office, and other instrumentalities of the Federal Government which administer nutrition-related programs to jointly participate in the preparation of an annual National Food and Nutrition Report to the Congress, assist in the establishment and operation of an Office of Food and Nutrition, and facilitate the creation of a National Nutrition Monitoring System; to provide such Office of Food and Nutrition with such powers, staff, and funds as may be necessary to properly coordinate, monitor, and evaluate Federal food and nutrition policies and programs, and, for other purposes.

## DEFINITIONS

SEC. 4. For purposes of this Act:

(a) The term "Office of Food and Nutrition" means the office established by section 6 of this Act.

(b) The term "Director" means the Director of the Office of Food and Nutrition.

(c) The term "nutrition-related programs and activities" and "nutrition-related program or activity" mean any program, policy, plan, or activity formulated or carried out by any department or agency of the Federal Government, or any activity carried out in whole or in part with Federal funds by any State or the local subdivision of any State, or by any contractor, licensee, agent or person, if such program, policy, plan, or activity has, in the judgment of the Director, a significant impact on the achievement of the purposes of this Act or on the objectives of the National Food and Nutrition Report presented annually to the Congress as provided in section 6(b)(5) of this Act.

(d) The term "National Food and Nutrition Report" means the report described in Section 7 of this Act.

(e) The term "Nutrition Goals" means the report described in section 7(a)(1) of this Act.

(f) The term "Nutrition Plan" means the plan described in section 7(a)(2) of this Act.

(g) The term "Non-Food Factors Affecting Nutrition" means the report described in section 7(a)(3) of this Act.

(h) The term "Director's Report" means the report described in section 7(a)(4) of this Act.

(i) The term "Nutrition Impact Statement" means any statement issued by the Director pursuant to section 6(c)(6) of this Act.

(j) The terms "department or agency of the Federal Government", "departments or agencies of the Federal Government", and "departments and agencies of the Federal Government" mean any executive department, government corporation, or independent establishment of the Federal Government as defined in sections 101, 103, and 104, respectively, of title 5, United States Code.

## DEPARTMENT OF FOOD, AGRICULTURE, AND RURAL AFFAIRS

SEC. 5. (a) The Department of Agriculture is renamed the Department of Food, Agriculture, and Rural Affairs.

(b) All laws, orders, regulations, and other matters relating to the Department of Agriculture or the Secretary of Agriculture shall, on and after the date of enactment of this Act, be deemed to relate to the Department of Food, Agriculture, and Rural Affairs, and to the Secretary of Food, Agriculture, and Rural Affairs, respectively; and any law, order, regulation, or other matter which makes reference to any other offices or employee of the Department of Agriculture shall, on and after the date of enactment of this Act, be deemed to refer to such officer or employee as an officer or employee of the Department of Food, Agriculture, and Rural Affairs.

(c) Notwithstanding any other provision of law, there shall be hereafter in the Department of Agriculture, in addition to the Assistant Secretaries now provided for, an additional Assistant Secretary for

Nutrition Programs and Food Policy, who shall be appointed by the President, by and with the advice and consent of the Senate, and who shall be responsible for appraising the various programs and activities of the Federal Government in light of the findings and purposes declared in sections 2 and 3 herein and for other such duties as the Secretary shall prescribe, and shall receive compensation at the rate now or hereafter prescribed by law for Assistant Secretaries of Agriculture.

#### FEDERAL NUTRITION PLANNING OFFICE; DIRECTOR FUNCTIONS

SEC. 6. (a) There is established within the Executive Office of the President an office to be known as the "Office of Food and Nutrition". Such office shall be headed by a Director who shall be appointed by the President by and with the advice and consent of the Senate.

(b) The Director shall be a person knowledgeable of nutrition, having a recognized professional status in this field of science. He or she shall be the President's primary adviser on all matters relating to food and nutrition and shall serve as the Federal Government's primary spokesperson on all matters relating to food and nutrition, including representing the United States before the World agencies such as the Food and Agricultural Organization, and other international bodies having an interest in nutrition and health. The Director shall also:

(1) formulate and recommend to the President such proposed legislation as the Director may deem necessary or appropriate to carry out the purposes of this Act;

(2) assist all departments of the Federal Government in developing, modifying, or improving existing or contemplated nutrition-related programs, policies, and activities;

(3) advise the Executive Branch regarding the impact of Federal programs, policies, and activities on food consumption and nutrient intake of, and the cost of food to, the American people;

(4) notify the Congress and the people of the United States of any significant or potentially adverse development or discovery which affects or is likely to affect food costs, food consumption and nutrient intake, or the quality or quantity of food available for domestic consumption within the United States without regard to whether such development or discovery was the result of some action or policy of a department or agency of the Federal Government;

(5) prepare and submit an annual National Food Nutrition Report to the Congress as provided in section 7 of this Act;

(6) coordinate the objectives of all nutrition-related programs and activities of the Federal Government; and

(7) perform such other duties relating to food and nutrition policy as the President may prescribe.

(c) In carrying out his or her duties under this section, the Director shall:

(1) Meet at least bi-weekly with a Food Advisory Group composed of the Secretaries of Agriculture, State, Health, Education, and Welfare, Treasury, Commerce, and Labor, the Director of the Office of Management and Budget, or their representatives, and repre-

representatives from the National Security Council, Central Intelligence Agency, Council on International Economic Policy and others the President may designate, and the Director shall present reports of the meetings to the President.

(2) convene such conferences, meetings, and hearings or conduct such inquiries or investigations as the Director deems appropriate for preparing the National Nutrition Report or for the development of legislative proposals to submit through the President to the Congress;

(3) actively assist each department and agency of the Federal Government having a responsibility for a nutrition-related program or activity to provide the information necessary for the preparation of the National Food and Nutrition Report and provide technical assistance to any such department or agency during its budgetary and planning process to the extent permitted by available staff and funds;

(4) facilitate the cooperative interaction of departments and agencies of the Federal Government conducting nutrition-related programs and activities by convening such meetings or creating such interagency committees as may be appropriate to implement the purposes of this Act and by acting as a government-wide clearing house on nutrition related information for the Executive Branch, the Congress, and the technical and scientific community;

(5) interpret, to the extent permitted by and information gathered in connection with the operation of the National Nutritional Monitoring System provided under section 8 of this Act for the Congress and the American people;

(6) issue a Nutrition Impact Statement whenever apprised of any development the Director determines is likely to have a significant impact on nutrient intake, food consumption, or food cost, whether such development be the result of any action or policy initiated or proposed by any officer or employee of the United States, private person or agency, or foreign government, or the result of national phenomena which affect the production or distribution of food.

(7) be authorized to employ, and fix the compensation of, such specialists and other experts as may be necessary for the carrying out of its functions under this Act, without regard to the civil service laws and the Classification Act of 1923, as amended, and subject to the civil service laws, to employ such other officers and employees as may be necessary for carrying out its functions under this Act, and fix their compensation in accordance with the Classification Act of 1923, as amended.

(d) In any case in which any department or agency of the Federal Government fails to provide the Director with a copy of the complete text of any proposed regulation or policy of such department or agency or any amendment to any regulation or policy of such department or agency which the Director determines may have a significant impact on the nutrient intake or food consumption of, or on the cost of food to, the American people, he is authorized to delay for a period of 90 days the effective date of any such proposed regulation or policy or amendment, as the case may be.

## NATIONAL FOOD AND NUTRITION REPORT

SEC. 7. (a) The Director shall prepare and submit to the Congress each year, through the President, as part of his State of the Union message, a document to be known as the National Food and Nutrition Report. Each National Food and Nutrition Report shall:

(1) Include a section, entitled "Nutritional Goals," which shall:

(A) Provide a comprehensive assessment of national nutrition status and of the unmet nutritional needs of the United States, whether due to inadequate food production, low family income, uneven food distribution or adulteration due to natural or human causes, with or without specific legislative recommendations to correct such deficiencies, except that prior to the establishment and operation of the National Nutrition Monitoring System provided for under section 8 of this Act, such assessment shall be based on nutrition and health assessment data being collected by departments and agencies of the Federal Government at the time of the enactment of this Act.

(B) Provide an assessment of world-wide nutritional needs, to be based on information gathered under the system specified in Section 9 of this Act, with identification of populations at high nutritional risk and an assessment of progress made in eliminating malnutrition over the past year.

(C) Provide a listing of specific goals aimed at meeting the needs described in Section 7(a)(1)(A) and (B).

(2) Include a section entitled "Nutrition Plan", which shall:

(A) Provide a comprehensive analysis of the national and international food supply situation anticipated in the year projected ahead from the date the report is issued and the relationship of the supply situation to meeting the nutritional goals as required by Section 7(a)

(1). The analysis shall include, but not be limited to:

(i) Projections of domestic and international food requirements;

(ii) Projections of anticipated domestic food production and anticipated use for domestic consumption, international trade, international food assistance, and reserve stocks.

(iii) Projected enhancement of food supplies that may result from food conservation measures.

(iv) The implications of supply factors for domestic and international food prices and food availability.

(v) The implications of supply factors for nutritional health, domestic and international.

(B) Provide a comprehensive listing and analysis of all Federal nutrition assistance programs, domestic and international, and their relationship to meeting the nutritional goals set forward in Section 7(a)(1) of this Act. This analysis shall include, but not be limited to:

(i) the objectives of such program or activity; the intended beneficiaries of such program or activity; the estimated annual cost of such program or activity; the services or benefits provided by such program or activity; the places and locations at which such program or activity is to be carried out; and such other information as may reasonably assist the Congress in determining the feasibility, practicality, desirability, and cost of such program or activity.

(ii) A specific enumeration and description of all instances of duplication of services, overlapping activities, or evidence of inappropriate or wasteful utilization of resources, taking into account both nutritional and budgetary considerations, with or without specific recommendations to correct such deficiencies.

(C) Provide a comprehensive listing and analysis of all Federal nutrition-related programs, domestic and international, other than nutrition assistance programs, including but not limited to human nutrition research progress, nutritional elements of health assessment programs, and nutrition counselling services, and their relationship to meeting the goals as required by Section 7(a)(1) of this Act. This analysis shall include, but not be limited to:

(i) the objectives of such program or activity; the intended beneficiaries of such program or activity; the estimated annual cost of such program or activity; the services or benefits provided by such program or activity; the places and locations at which such program or activity is to be carried out; and such other information as may reasonably assist the Congress in determining the feasibility, practicality, desirability, and cost of such program or activity.

(ii) A specific enumeration and description of all instances of duplication of services, overlapping activities, or evidence of inappropriate or wasteful utilization of resources, taking into account both nutritional and budgetary considerations, with or without specific recommendations to correct such deficiencies.

(3) Include a separate section entitled "Non-Food Factors Affecting Nutrition," providing, at the discretion of the Director, an analysis of non-food factors that may affect food availability, food selection, food price, food quality, or food safety. Such analysis may include, but not be limited to, an analysis of the operation of food marketing orders, the impact of nutritional labeling, and the degree of competition existing in the food production, processing and marketing sectors in the United States.

(4) Include a separate section entitled "Director's Report" which shall include but not be limited to:

(A) An assessment of the implementation of this Act for the preceding year;

(B) Any proposed changes in existing programs or other recommendations for legislation, including proposals referred to in Sec. 6 as the Director may deem necessary or appropriate to carry out the purposes of this Act.

(C) Report on food composition and safety as provided in sec. 8(d)(4).

(b) The National Food and Nutrition Report shall be organized in a manner which will facilitate a total evaluation by Congress of the Nation's nutrition-related programs and activities as a whole, without regard to individual responsibilities of departments and agencies of the Federal Government;

(c) The National Food and Nutrition Report shall be completed for presentation by the President on December 31 of each year, with the first report to be submitted by December 31, 1976.

(d) The Director is authorized to gather such information as may be necessary to achieve the purposes of this section and section 6 of this Act.

## NATIONAL NUTRITION MONITORING SYSTEM

SEC. 8. (a) The Director shall, in consultation with the Secretary of Health, Education, and Welfare, and the Secretary of Food, Agriculture, and Rural Affairs, submit to the Congress a detailed plan establishing a National Nutrition Monitoring System for the monitoring, on a continuing basis, of the nutrient and food consumption of the American people and the known, probable, and possible health effects of such consumption. Such plan shall become effective unless the Congress adopts a concurrent resolution disapproving such plan within 90 days after the date of submission to the Congress.

(b) In developing a plan for such a system, the Director shall consult with such professionals in the nutrition and health surveillance fields as he deems appropriate in order to assure that the system developed represents the highest technical and scientific standards realistically feasible within the budgetary constraints of the respective offices collecting information for the system.

(c) The National Nutrition Monitoring System proposed under subsection (a) of this section shall be administered by the Secretary of Health, Education, and Welfare, in consultation with the Secretary of Food, Agriculture, and Rural Affairs insofar as the actual collection of information is concerned, but the Director shall provide summaries and interpretations of such information as provided in section 7(a)(1)(A) of this Act.

(d) Any National Nutrition Monitoring System proposed under subsection (a) of this section shall include the following elements:

(1) A general survey of the nation's nutritional health, to be conducted every five years, starting in January 1977, administered by the Departments of Food, Agriculture and Rural Affairs, and Health, Education, and Welfare; which will combine the food consumption inquiry of the Household Food Consumption Survey, as authorized under the Research and Marketing Act of 1946, P.L. 70-732 (7 U.S.C.—427, 1621) and the nutritional health inquiry of the Health and Nutrition Evaluation Survey, as authorized under the National Health Survey Act of 1956, P.L. 933-53. The results of the survey shall be published by the Director as provided in section 7(a)(1)(A) of this Act.

(2) A general survey of the groups at high nutritional risk, to be conducted every two years, beginning January 1977, administered by the Department of Health, Education and Welfare and following the general procedures used in the Health and Nutritional Evaluation Survey. The results of the survey shall be published by the Director as provided in section 7(a)(1)(A) of this Act.

(3) A continuous monitoring of the public's nutritional health through the establishment of state nutritional monitoring services. This state monitoring network shall be established through the expansion of the monitoring system currently administered by the Center for Disease Control. This expansion shall provide a monitoring sample inclusive of all regions of the country and persons of all ages and income levels.

(4) A continuous monitoring system to measure the nutrient content of foods, the presences of any hazardous chemical agents or food additives or any contaminants or other potentially dangerous material as may occur naturally in foods. This monitoring is to be conducted

jointly by the Departments of Agriculture, and Health, Education, and Welfare, and shall be included in the Director's Report provided for in section 7(a)(4) of this Act. This Report shall include information on the changing composition of foods, use of food additives and other factors affecting nutritional health and food safety.

(5) A survey, to be conducted by the Department of Health, Education, and Welfare, every two years, starting in January 1977, of the needs for manpower in nutritional health-related fields and the adequacy of nutritional evaluation and counselling services.

(6) The Director shall identify and report to Congress any significant monitoring gaps caused by the inadequate state of technical information and shall make such recommendations with respect thereto as may seem appropriate.

#### INTERNATIONAL NUTRITION MONITORING SYSTEM

SEC. 9. (a) The Office shall be responsible for coordinating a system through which the United States may measure nutritional health in other nations so as to better formulate its food and nutrition policies. This system shall be composed of the following elements:

(1) A continuous monitoring of nutritional status of other nations through United States Embassies and Missions to be conducted by the Departments of State and Agriculture upon passage of this Act, with monthly reports made to the Board that shall include the following information:

(A) estimates of numbers of persons dying of starvation;

(B) estimates of numbers of persons suffering debilitating malnutrition from lack of nutrients;

(C) changes in food production, food imports and exports, food prices, government policy or other factors that will significantly change the nutritional health status of the nation's population;

(D) United States actions that could materially improve the nutritional health of these populations.

(2) A continuous monitoring by the Office of reports of international governmental and non-governmental organizations, and United States intelligence reports to identify significant nutritional trends, status of food production, and other factors.

(3) Continuous nutrition surveys in selected countries to be conducted jointly by the government of that nation, and the Department of State, the Department of Food, Agriculture, and Rural Affairs, and Health, Education, and Welfare, and concerned international agencies to inquire into specific nutritional problems, Conclusions and recommendations based on the survey may follow.

(4) Continuous study in selected countries to be conducted jointly by the Departments of State, Food, Agriculture, and Rural Affairs, and Health, Education, and Welfare inquiring into those policies of these countries and of the United States and other nations, contributing to or detracting from the nutritional health of the population. These policies shall include:

(A) Agricultural production and trading policies of the United States and the nation involved;

(B) General economic policy of the nation involved, including progress in land reform.

(C) Activities of American business, including the food industry in the nation involved.

(b) A report of the findings of each year's reported in the annual National Nutrition Report described in Section 7.

(c) The Director shall identify and report to the Congress any significant monitoring data gaps caused by the inadequate state of technical knowledge and make such recommendations to the President and the Congress with respect thereto as he deems appropriate.

#### AMENDMENT TO TITLE 5, UNITED STATES CODE

SEC. 10. Section 5313 of Title 5, United States Code, is amended by adding at the end thereof a new paragraph as follows:

"(23) Director of the Office of Food and Nutrition."

#### AUTHORIZATION FOR APPROPRIATIONS

SEC. 11. There are authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act.

[From the New York Times, Jan. 9, 1976]

#### FOOD AND HEALTH

If people really are what they eat, then Americans had better watch out. According to a recent report issued by the Senate Select Committee on Nutrition and Human Needs, a substantial portion of the population of the United States eats improperly, and this country hasn't developed the policies, governmental organizations or the human resources to keep a bad situation from becoming worse.

America's nutritional probes are not simply those of insufficiency but of overabundance as well, with the latter condition spawning a fairly lethal set of problems. Dr. William E. Connor of the University of Iowa told the committee last year that "the vast majority of Americans suffer from overabundance of food. . . ." contributing to such illnesses as coronary heart disease, high blood pressure, diabetes mellitus and obesity.

Nutritional insufficiency takes its expected toll on poor people, contributing to infant mortality and severe childhood diseases, while limiting learning ability growth and the ability to concentrate on productive tasks. It has unexpected effects as well, such as a high incidence of learning-hampering iron deficiency in black children between the ages of 1 and 5 who are in families with incomes above the poverty line, and a high incidence of learning-hampering iron deficiency of protein deficiency in white adults between the ages of 45 and 59.

More disturbing, perhaps, is the committee's finding that nutrition training in medical schools is inadequate, that there are not enough nutritionists and dieticians to service the nation's needs; that the Federal Government's means of measuring nutritional adequacy in the American diet are spotty and inefficient and that there are not effective mechanisms in the executive branch for dealing with these problems. Moreover, the mechanisms that do exist are designed to deal with the issue in economic, political and foreign policy terms, rather than in terms of the health impact of America's domestic and foreign food policies.

The Senate committee recommends the establishment of a food and nutrition policy board in the Executive Office of the President and the appointment of an assistant secretary for nutrition in the Department of Health, Education, and Welfare. Whatever the merits of any specific bureaucratic solution may be, it is clear that the development both of a food policy based principally on the health needs of the consumers and of arrangements within the executive branch capable of accomplishing that task are long overdue.

[From the Washington Post, Dec. 28, 1975]

## A NATIONAL FOOD POLICY

To those of us who are regularly well fed, food is so much a routine matter that we seldom think of it as a subject that might require a national policy. But food, as much as any resource, deserves coordinated consideration. It certainly deserves as much coordination as we would give to energy or the environment—and not just because so many of our citizens are not regularly well fed. Indeed, the very same forces that make it necessary for this nation to grope toward an energy policy make the argument for a national food policy at least as compelling.

Consider the range of questions for which no single agency of government is totally responsible: When, and under what conditions should the United States export food? What criteria should our foreign food customers meet? Should it be merely the ability to pay, or should the level of need be part of the consideration? At home, what constitutes a food? May a chemical company be permitted to concoct a substance that tastes like meat while containing huge doses of unfamiliar chemicals? Should the development of "chemicalized" food be regulated more carefully? And speaking of the poor, what should the food policy aim to achieve? A guarantee of a minimum diet? A guarantee of an adequate diet for the average American? Should the intake of "empty calories," such as in potato chips, be discouraged? Or should government simply hand out money instead of food, and let people eat according to their own lights?

For years now, various departments of the U.S. government have been wrestling with their role in the formulation of a food policy. A little monograph published this week by the Senate Select Committee on Nutrition and Human Needs tells a sorry tale about their efforts: In summary, the committee's report faults the executive branch on various counts, including: a failure to survey adequately the nutritional needs of the nation, a failure in the implementation of better nutritional education in the nation's medical schools, a failure to implement a number of programs with the goal of helping the nation maintain better health by emphasizing the importance of nutrition. Sen. George McGovern, the committee chairman, frames some of his comments on this problem in anti-Nixon and anti-food terms, perhaps to be expected on the eve of an election year. There is blame enough to go around, however, and the hour is late for dealing with some of these questions.

The matter is pressing because the globe is shrinking and the population rising. Whatever one's view of the United States' role in Vietnam or Angola, the one inescapable fact is that the United States is one nation on which the poor of all lands rely for solutions to pressing problems having to do in one way or another with food. The problem of declining food stocks is just one of the several important food policy questions that is manifestly larger than the scope of any one agency of government. Experience has taught us the consequences of large-scale unplanned sales of grain to the Soviet Union, and that is only one example of why a coordinated food policy is in our long-term interest. This is not to say the many competing claims can ever be fully harmonized. It is to say that there is little public benefit from the confusion that now exists.

No place is that confusion more evident than in the field of food safety. An unprecedented number of food additives is entering the market and new foods are being "invented" daily through the use of chemicals. The implications of this development for the public health are enormous. But the present level of federal involvement is minimal.

For all these reasons, an idea advanced by the Senate Nutrition Committee is worthy of serious scrutiny. The committee proposes, among other remedies, that Congress create a food and nutrition policy board in the executive office of the President. It would be composed of the secretaries of HEW, State and Agriculture. In addition to assisting the President in the formulation of food policy this new board would also help him prepare a report on food nutrition as a normal part of the State of the Union message. It also calls for an HEW assistant secretary for nutrition. All these suggestions are open to critical evaluation. Much more discussion of the whole concept of nutritional and food planning is necessary. The remedies remain to be worked out. What is already clear, however, is that nutrition is too serious a matter to leave to bureaucratic confusion and conflicts of interest—or merely to chance.

[From the Washington Post, Jan. 1, 1976]

## FOR THE RECORD

*The following is excerpted from a recent report by the Senate Select Committee on Nutrition and Human Needs:*

When we talk about health, nutrition and agricultural policy in the United States we do so in a global context in which food, like oil, is being rationed by price, not human needs. The rich eat well, the poor not so well or not at all.

In the United States the rise in food prices of more than 40 percent in 3 years has pushed millions further from an adequate diet. The food stamp program and other food assistance programs have helped ease the strain on the poor, but the extent to which the diets of vulnerable groups has suffered is not known.

Americans who can afford an adequate diet may not be getting one either, however, for rich and poor alike are tempted daily by a food system striving to expand demand by tempting the palate with foods overloaded with fat, sugar and salt, low in nutritive value, high in pleasure value. Our eating habits and the composition of our food have changed radically, but we do not have any detailed measure of what is happening to the Nation's nutritional health.

We do know that millions of Americans are literally sick with diet-related illnesses. Five of the 10 leading causes of death in the United States have been connected to diet.

In short, we find the United States, amid a world with a cruel imbalance in food distribution, pursuing a business as usual policy which is not only wasting food and the non-renewable resources needed to produce it, but is contributing to ill-health and the short fall of human potential. The perpetuation of this policy is founded at least partly on the prevalence of public ignorance about nutrition.

[From the Los Angeles Times, Dec. 22, 1975]

## MCGOVERN WARNS OF NUTRITION PERIL

(By Austin Scott)

WASHINGTON.—Sen. George S. McGovern (D-S.D.) said Sunday that nutrition—the lack or excess or quality of it—might be the nation's No. 1 health problem. He accused the Ford and Nixon administrations of "systematic indifference" to the need for action.

"Our eating habits and the composition of our food have changed radically, but we do not have any detailed measure of what is happening to the nation's health," McGovern said in the foreword to a new Senate staff study on nutrition.

"The threat is not beri beri, pellagra or scurvy. Rather, we face the more subtle, but also more deadly, reality of millions of Americans loading their stomachs with food which is likely to make them obese, to give them high blood pressure, to induce heart disease, diabetes and cancer—in short, to kill them over the long term. We face the tragedy of anemic children failing in school and repeating that pattern of failure throughout their shortened lives."

The 258-page staff report, released Sunday by the Senate Select Committee on Nutrition, which McGovern heads, recommends that Congress pass a law to promote nutrition education in a variety of ways.

It urges Congress to look also at medical licensing examinations, Medicare and laws governing federal and state health care to see how they might be changed to emphasize attention on good nutrition.

The departments of Agriculture and Health, Education and Welfare should speed up and make more comprehensive a number of nutrition studies on which they are working, the report says.

It recommends setting up a food and nutrition policy board in the White House and a post of assistant secretary for nutrition and an office of nutritional health evaluation in HEW.

McGovern said he did not know for sure why both administrations had rejected programs proposed over the years by experts inside and outside of government for improving the nation's nutrition, but he said politics might have played a part.

He said the Department of Agriculture's household food consumption survey, scheduled to begin next month, had been delayed at least a year by the Office of Management and Budget, "supposedly for technical reasons.

"But one official reports that, in fact, the Administration did not want to be embarrassed in an election year by preliminary findings which might very well show a decline in the nutritional quality of the American diet," McGovern said.

The White House said Administration officials had not seen a copy of the study or of McGovern's remarks and would have no comment.

McGovern said he was aware that remedies for the problems he described "... will not all be obvious or easy; they demand the rethinking of established economic patterns and assumptions."

But, he said, the problems "... must be faced squarely ..." and, if change is necessary, "then we must change in a manner which protects the interests of food consumers and producers alike."

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[From the Kansas City (Mo.) Times, Dec. 22, 1975]

#### "NUTRITIONAL IGNORANCE" ALLEGED

WASHINGTON.—The United States is a nation that is "eating blind," wasting food and the resources needed to produce it and maintaining its ignorance about nutrition, the chairman of the Select Senate Committee on Nutrition said Saturday.

Sen. George McGovern (D-S.D.) accused the administrations of President Gerald Ford and his predecessor, Richard M. Nixon, of "permitting and even perpetuating nutritional ignorance." McGovern was defeated by Nixon for the presidency in 1972.

The public "does have a right to proper nutrition evaluation and counseling" and needs constant monitoring of its nutritional health, he said in releasing a 258-page committee staff study of "nutritional surveillance in the United States."

McGovern said the report "documents beyond a doubt and in detail that the Nixon-Ford administration has kept the American public in the dark about nutritional health and has frustrated the effort to apply nutritional health standards to the nation's food and economic policies."

At various points in the document, the staff refers to sometimes-total cuts in the budgets of small agencies dealing with nutritional issues, changes in governmental surveys when the results would lend support to advocates of expanded federal feeding programs and what it called the inadequacies of the surveys in producing the information desired.

McGovern, endorsing 18 recommendations for governmental co-ordination, funding and surveying, said the remedies to the problems the staff analysis found "demand the rethinking of established economic patterns and assumptions."

For example, he said, the reason for this inaction by the White House leadership may be related to traditional concepts of and support for the free market place.

But, he said, it is "an anarchic market place where consumers may be uninformed of other variables more important than price or taste or color."

McGovern said "we have reached the point where nutrition, or the lack or the excess or the quality of it, may be the nation's No. 1 health problem. The threat is not beriberi, pellagra or scurvy.

"Rather," he said, "we face the more subtle, but also more deadly, reality of millions of Americans loading their stomachs with food which is likely to make them obese, to give them high blood pressure, to induce heart disease, diabetes and cancer—in short, to kill them over the long term."

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[From the Lexington (Ky.) Herald, Dec. 28, 1975]

#### NUTRITION TAKES BACK SEAT NOW

"We face the ... reality of millions of Americans loading their stomachs with food which is likely to make them obese, to give them high blood pressure, to induce heart disease, diabetes and cancer—in short to kill them over the long term."

What a statement for anyone to make prior to the Great American Holiday Gorge in which this country is now in the middle.

From Christmas Eve to New Year's Day, Americans revel in the delights of stuffing both turkeys and themselves. It's a great tradition that leads to a lot of moaning and groaning after the feast. But at any rate, it's the American thing to do.

So Sen. George McGovern's timing was not the best as he and his Senate Select Committee on Nutrition released a study on nutrition a few days before Christmas.

On the other hand, maybe it was good timing. Families could get together and keep a record of what they've eaten and what they have planned to eat over the rest of the holidays just to see how much truth there is in the senator's claims.

While at present we're really dealing with a seasonal gourmet's delight, McGovern and his staff see a serious nutritional problem developing in this country.

It is so serious to him that he sees the lack of nutrition as possibly being the nation's number one health problem.

So McGovern and his committee are now proposing that Congress pass a National Health Manpower Act. It would encourage nutrition education in many ways.

It's an idea that more people might be willing to give serious thought to after the holiday stomach stretcher is over.

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[From the Henderson (Ky.) Gleaner-Journal, Dec. 27, 1975]

#### WORRIES ABOUT NATION'S NUTRITION ARE JUSTIFIED

We are what we eat, and Sen. George McGovern, D-S.D., is justifiably concerned about what this means in terms of nutrition and health.

"Our eating habits and the composition of our food have changed radically but we do not have any detailed measure of what is happening to the nation's health," McGovern said last week.

"We face the . . . reality of millions of Americans loading their stomachs with food which is likely to make them obese, to give them high blood pressure, to induce heart disease, diabetes and cancer—in short, to kill them over the long term. We face the tragedy of anemic children failing in school and . . . throughout their shortened lives."

McGovern is right to ponder the future of another "burger-and-cola" generation. A 258-page report from the Senate Select Committee on Nutrition, which McGovern chairs, recommends that Congress pass a Nutritional Health Manpower Act to promote nutrition education.

It also urges Congress to look at medical licensing examinations, Medicare, and laws governing federal and state health care to see how they might be changed to emphasize good nutrition.

Good nutrition is as vital to the busy businessman as it is the growing child. Paying attention to what we eat is important. McGovern's ideas are food for thought.

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[From the New York Post, Dec. 27, 1975]

#### EMPTY CALORIES

Many years of official hearings have given Americans an uneasy understanding of the fact that millions in this generally well-fed nation are still hungry; it is also true that overeating is not necessarily a remedy for undernourishment.

The point was given some emphasis the other day by Sen. George McGovern (D-S.D.). The Senator, chairman of the Senate Select Committee on Nutrition, was the latest to make the distinction between full stomachs and such dietary deficiencies as "empty calories"—largely non-nourishing food.

According to McGovern and his staff, there is evidence that the proposed Household Food Consumption Survey by Agriculture Dept. researchers has been postponed because early data may indicate disturbing nutritional shortcomings if the food choices many Americans make—when they do get a chance to make a meal.

Significantly improved nutrition education is one of the committee's prime recommendations. It may even be enough to compensate for the aggressive promotion of snacks, other mini-meals and potentially damaging food products—particularly the sales pitches aimed at smaller children. That will depend on more data; the food survey could supply some.

[From the Christian Science Monitor, Dec. 24, 1975]

# SENATE REPORT SAYS FEDERAL POLICY MUST AIM FOR REDUCTION OF MALNUTRITION IN AMERICA

(By Lucia Mouat)

WASHINGTON.—Pressures are building on the Ford administration to develop a coordinated national food policy which takes into account the nation's nutritional needs.

The latest prod comes from the Senate Select Committee on Nutrition and Human Needs. In the foreword to the committee's latest report released over the weekend, Sen. George McGovern (D) of South Dakota, the chairman, calls for an "effective, compassionate, healthful" food policy and suggests as a start that much better information on the nation's eating habits is needed.

The report recommends a continuing nutritional surveillance program so that federal policymakers will know just how America's diet is changing and as precisely as possible the extent of malnutrition in the United States. The Senate report contends that present surveys are inadequate for the job.

The Department of Health, Education, and Welfare's health and nutrition evaluation survey for instance is dismissed in the report as deficient in failing to identify the location and nature of malnutrition and lacking timeliness. The last 1971 data is due to be published in 1976.

Similarly the Department of Agriculture's household food consumption survey, on which food-stamp allotments are based, is criticized for measuring only the average food intake, ignoring its consequences for nutritional health and offering no breakdown by income level.

"We know that the increase in the cost of food has proportionately hit low-income families much harder," notes Rodney Leonard, executive director of the Community Nutrition Institute and another staunch backer of the need for better data and for a forward-looking national food policy.

The Senate report observes that the failure to coordinate such a policy appears to be based on concern that once nutritional health considerations are given free rein, they will threaten traditional agriculture and economic policies such as the administration's effort to limit the size of the nation's food-stamp program.

"Food policy is set by market forces with very little concern for the public interests," charges Senator McGovern.

Mr. Leonard contends such food policy as exists, largely by default, has been governed in part by the world's growing demand for food and the U.S. position as one of the chief suppliers. He reasons that Americans would never have "voted" for the 50 to 60 percent increase in food costs occurring over the last three years as a result in large part of its food-export policy.

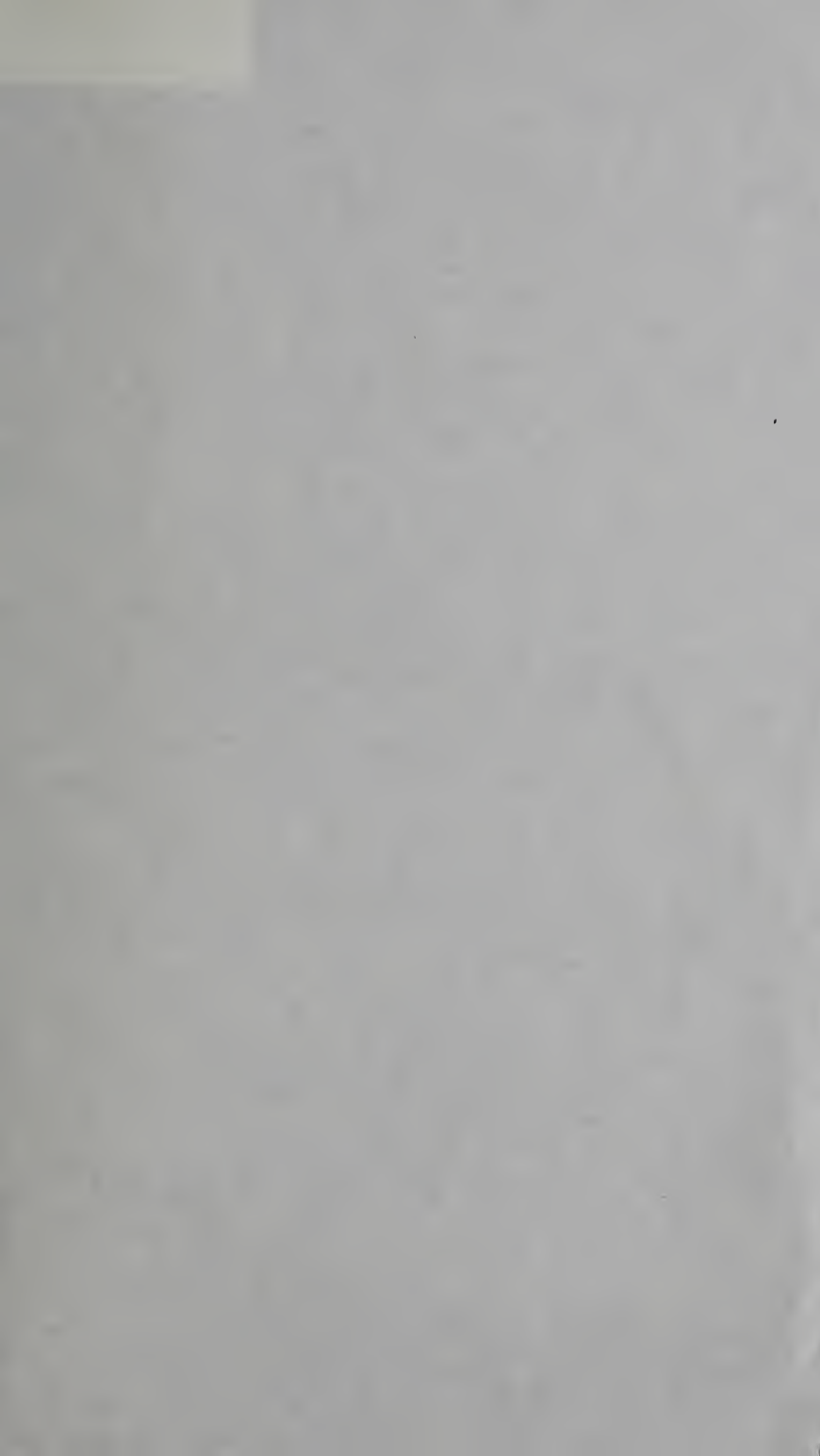
The Community Nutrition Institute head says that he is encouraged, however, by what he sees as now widespread recognition of the need for a national food policy: "I guess recognition is the first step toward getting there."

The Senate report, fifth in a series on the subject, is sharply critical of both the Nixon and the Ford administrations, charging them with delaying and underfunding surveys that could really pinpoint the nation's nutritional problems.

In addition to calling for a continuing public-education campaign on grounds that all should have the right to wholesome and safe food in this country, the report recommends specific structural changes in the executive branch such as a food and nutrition policy board within the president's executive office.

It also suggests that Congress establish an office of nutritional health evaluation within the Department of Health, Education, and Welfare and that the HEW secretary provide a report by June, 1978, on the department's plans in nutrition for the following two years.





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